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1983: A Late-Year Assessment

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Economic activity has expanded sharply since late 1982. The quickened pace of the economy is reflected in both spending and output measures, as well as in measures of capacity utilization. Moreover, the economic gains have occurred essentially without adverse side-effects. The rate of inflation has not increased; interest rates have drifted generally lower.

The improvement in the economy has been accompanied by two choruses. One is a chorus of lament. It emphasizes the shortfall between promises and outcomes; it points to remaining problems; it complains of elapsed time, and disagrees with priorities. An undertone of this theme is that there is a better way. The other chorus is one of joy. Each tidbit of economic improvement is served up as though it were a full course meal. Problems are ignored, minimized, or blamed on the past. The explicit, often-repeated theme is that the way has been discovered, or rediscovered. We are on the path of supply-side economics.

Output Growth Has Quickened

There has been a rapid expansion in the output of the economy since the end of last year. Real gross national product — that is, GNP adjusted to remove the effects of price level changes — has expanded at a 6.7-percent annual rate since the fourth quarter of 1982. As a result, the pace of output has again surpassed the prerecession peak reached in the third quarter of 1981.

The three successive increases in output were preceded by four years of economic malaise. From the end of 1978 to the end of 1982, periods of lackluster growth were punctuated by brief declines, then followed by more than a year-long recession. Over this four-year stretch, real GNP grew less than 1 percent, an annual growth of just 0.2 percent.

Hence, even now the economy is operating well below its reasonable potential. Over the 1968-1978 period, real gross national product grew at a 3.1-percent annual rate. If the economy had continued to grow at that rate from 1978 forward, real GNP

would have been roughly 8 percent higher than its current level. On a personal basis, such a shortfall between where we are and where we could be would amount to roughly a four-week bonus. For most of us such an addition to our income would be quite meaningful.

Results relating to other measures of physical output are consistent with the real GNP pattern. Industrial production — the output of the nation's mines, factories, and utilities — has expanded at a 19 percent annual rate since December of 1982. Notwithstanding the rapid growth, the rate of output has not yet regained the pace reached in early 1979. Housing starts, another measure of physical activity, are up sharply from their recession low. At an annual rate of just over 1.5 million units in the late autumn of 1983, home building was 25 percent higher than the year earlier rate, and nearly double the late 1981 recession lows.

Resource Use Has Improved

Employment has risen, reflecting the rise in physical output. As business has improved, employers have added to the workforce and have used the existing workforce more intensively. Total employment has risen at nearly a 4-percent annual rate since the end of 1982, and has jumped forward at more than an 8-percent rate since late spring. The length of the average workweek has also edged higher.

The economic recovery has been accompanied by a rise in productivity. In fact, since early 1983 there has been a moderate decline in unit labor costs. That is, output per hour of work has risen more rapidly than compensation. Although such developments are not without historical precedence, they are certainly unusual. The explanation for the fall in unit costs is straightforward, and has been part of the mythology of business cycles for years. The notion is that, because of the recession, business firms are operating at rates below their optimal capacity. Hence, as workers are rehired and output expands during

recovery, average costs decline. It is also supposed that the most productive workers are rehired first. Even though the explanation is straightforward and has been repeated for years, over these same years there has been little evidence of falling costs of output — with or without recession or recovery. The expansion in employment has been accompanied by declines in unemployment. From December 1982 to October 1983 the unemployment rate fell approximately two percentage points, from just under 11 percent to 8.8 percent. If the unemployment rate were to continue to fall at the same pace in the future as in the past 10 months, nearly two years would be required before unemployment drifts below 6 percent, the level reached in the 1978-1979 period. Recall that stagflation was the word used to characterize this earlier period.

Demand Has Strengthened

Total spending expanded sharply in 1983. Since the final quarter of last year, gross national product has risen at an 11-percent annual rate. In the preceeding five quarters, GNP had risen at a 2.8-percent rate. Even though the expansion in total spending has been rapid, the rise has been more moderate than in much of the 1975-1980 period.

In the early part of the year much of the increase in demand stemmed from consumers. From February to June retail sales, an important portion of total consumer spending, ballooned upward at nearly a 30-percent rate. Since then the growth in consumer spending has moderated. After mid-year, business investment accelerated. Growth in inventories accounted for roughly one-third of the expansion in business investment.

Notwithstanding all the talk about supply-side economics, it is interesting to note that the recovery of the economy has been accompanied by a rise in aggregate demand. Also, the preceeding recession was characterized by a weakening in aggregate demand. This is not to suggest that supply-side views are without merit. Rather, it merely reinforces the view that supplies will not be forthcoming on a continuing basis without effective demand.

Side-Effects Are Quiescent

We have grown accustomed to associating inflation and high interest rates with an expansion in economic activity. It is understandable to fear these

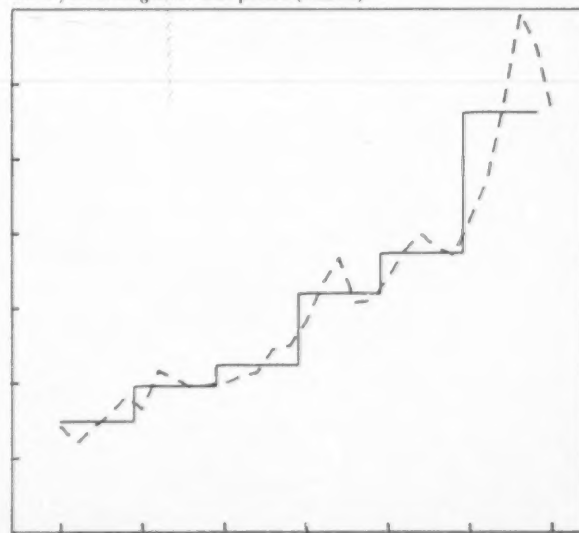
twin evils. Moreover, it is prudent to be alert for their reemergence. However, as matters now stand inflation has not accelerated, and interest rates have not yet begun to move upward.

The rate of inflation has remained relatively moderate during the recovery. Even though the rate of inflation has jumped to a 5.5-percent rate since June, consumer prices have risen at only a 3.7-percent annual rate since the end of 1982. This rate of inflation is essentially unchanged from the pace experienced during the preceeding recession.

We have grown accustomed to regarding as moderate, inflation in the 4-6 percent range. Historically, however, such rates of price level increases are quite rapid. From the early 1950s to the mid-1960s, inflation (as measured by consumer prices) averaged about 2.5 percent; from 1965 to 1973, inflation averaged 4.4 percent; then, inflation rates doubled — and more than doubled. For example, from 1973 to 1981, consumer prices rose at a 9.4-percent rate. Such differences in inflation rates are important, especially for those on fixed or relatively fixed incomes. If prices are rising at a 2.5 percent annual rate, it takes nearly 30 years for the price level to double. But with prices rising at 9 percent, the price level doubles in less than 8 years. We should get little real comfort from recent inflation rates. They imply a doubling of the price level in less than 15 years.

Interest rates have probably not yet begun their upward cyclical movement. Clearly, rates are well below their year-earlier levels, and there is a good chance that they will remain near their current level into the near- to intermediate-term future. But in the longer run interest rates are quite likely to move higher. Interest rates have ratcheted higher in the period since the early 1950s. The accompanying chart shows annual yields on 10-year Treasury bonds, along with 5-year averages over the 1953-1983 period. Interest rates rose during each 5-year period shown.

Chart
Annual yields on 10-year Treasury bonds 1953-1983 (----) and 5-year averages for that period (—)



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Allocating Prison Space: An Economic Approach Incorporating Efficiency and Equity

Robert W. Gillespie

The current prison capacity crisis in Illinois and other states offers an opportunity to adopt a long-run policy that recognizes that prison space is a scarce resource and that allocates the resource in a manner that both reflects its true economic cost to the taxpayers of the state and that provides each county an equitable share of this state resource for local crime control.

It should be recognized at the start that prison space *has always been scarce* in the true sense of placing a claim on the limited real resources of society. Further, it has nearly always been rationed by one or another institutional method. The current crisis in Illinois differs only in degree and because it has been drawn to the public's attention by a successful legal challenge to the most recent rationing method — the Department of Corrections's (DOC) early release policy. (This policy would be more accurately described as a "capacity release" policy. Prison-capacity limits was the explicit motive, not a desire to reward the inmates who were released early as a consequence of the capacity limits.)

The solution to be proposed takes as given most of the explicit and implicit institutional arrangements regarding the division of responsibility for crime control between the state and local governments, particularly county governments. Under these arrangements the state government's role is one of setting general standards of operation and providing a necessary common legal framework. In addition the state has accepted some limited fiscal responsibilities in the form of salary subsidies for selected county criminal justice personnel and, most important, all of the costs of operating the state prison system.

However, nearly all of the policing, prosecuting, and adjudicating functions are under the direct control of county and city governments and, thus, local citizens. For example, the sheriff and states attorney are elected county officials. Circuit judges, although nominally elected within circuits, generally conduct court only in their home counties; and it is the voters in their home counties to whom they must look for retention. Further, a large portion of the resources needed to support these local services is raised by county taxes and managed by county executives or county boards whose taxing and expenditure decisions are directly accountable to the citizens of the county. Thus, to a very large degree marginal crime control decisions and their marginal funding decisions are a local matter. To the extent that criminals and their victims are both residents of the same locality (county), this arrangement has a political rationale, that is, the more local the nature of a problem, the more our political system tends to favor locally designed solu-

tions. (The logic of the proposed solution depends crucially upon *every* official involved in local sentencing decisions being locally elected, and therefore politically accountable to local citizens — potential crime victims as well as taxpayers. This accountability would be considerably weakened if judges were appointed for life, as are federal judges.)

The state support for long-term incarceration — the state prison system — differs in an important degree from state support for local salaries in that the state does not explicitly allocate prison resources among the counties. Rather, the state provides these services on a first-come first-served basis. Because prison space is always finite and fixed in the short run, this passive response of the state to local sentencing decisions can lead (one could argue, will inevitably lead) to a prison capacity crisis such as we are currently experiencing.

An Economic Solution

Since prison space will never be free, efficient allocation requires that it be supplied in an amount that will equate the price consumers are willing to pay for the last unit with the cost of supplying the last unit. Computing the economic costs of supplying the service, for example, construction costs and operating costs, is a straightforward exercise in cost accounting. The difficulty in applying this rule to prison space arises in determining the value of the last unit to "consumers." In this case the consumers are the citizens (also voters, potential crime victims, and taxpayers) of each county expressing their wishes through their elected officials — county prosecutor, judges, and county boards. *I propose that the value to county consumers be determined, as are private goods, by a "market."*

Each county would initially be allocated, without cost, a share of available prison capacity; how this share is to be determined I shall discuss later. County officials would then be free to buy or sell prison space with other counties. Counties that wished to rely heavily upon prison incarceration as a means of crime control, that is, to an extent greater than the space allocated to them, would have to purchase additional space from other counties, counties that were willing to utilize alternatives to prison incarceration more heavily. The actual market might be administered by the Department of Corrections. For example, every month or quarter an auction could be run by the DOC where a market clearing price was determined and space rights and cash exchanged.

The market clearing price from the auctions would provide the state government with a very valuable bit of information. The price would reflect the *common dollar value* attached to one additional unit of prison space by *every* county in the state. For example, consider a county that neither purchased nor sold space at the auction where the clearing price

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was \$15,000 per cell. One can infer that this county did not purchase additional space at the final price because the value placed on additional space by the county was less than \$15,000. Likewise, if the county had unused space but did not sell it, one can infer that the county valued the loss of one cell of its own space equal to or more than the \$15,000 it could have produced. Combining these two inferences, we conclude that the value placed on one additional cell, even by counties that did not buy or sell space, was approximately equal to the final price, \$15,000. And certainly for counties that did buy or sell, one would infer that they stopped only when the value to them of one additional cell was also approximately \$15,000.

The state now has a measure of the *common dollar value* placed upon additional prison space by every county. If this value exceeds the construction and operating costs of an additional cell, then this is a clear signal to state government that additional space is needed in a very meaningful sense, that is, county (and state) taxpayers are willing to pay more for additional space than it costs. Conversely, if the auction price is less than the costs of constructing an additional cell, the stock of space is adequate (or excessive) in a true economic sense.

Let us now consider how the initial stock of prison space might be allocated to the counties prior to the start of the periodic auctions. The method of allocation can be based either on (1) principles of equity among counties or (2) on efficiency, for example, allocating the state's prison space so as to achieve the greatest total reduction in state crime regardless of where the reduction occurs among counties.

We will consider only allocations based upon equity for two reasons. First, to implement the efficiency criterion we would have to know the quantitative marginal impact of increased incarceration on crimes punishable by incarceration in each county. That is, we would have to have *reliable quantitative estimates* of the specific and general deterrence of crime by the fear of incarceration. The deterrence question has been the subject of considerable scientific study during the last decade or so; however, this research effort notwithstanding, we still lack knowledge sufficiently precise for detailed marginal policy decisions. A second reason for considering only equity as a basis for the administrative allocation is the problem raised by retribution or justice when used as a sentencing rationale. Even if the deterrence issue were satisfactorily resolved, it must be recognized that deterrence (crime control) is not the only basis for sentencing. Certainly a desire to "make the punishment fit the crime" may also be very important. Just as the deterrent effect of incarceration may differ among counties, local opinions regarding what is a just sentence for identical crimes may also differ. At present there is no way to measure these tastes *a priori*; consequently, the proposal lets the market reveal such differences.

The simplest approach would be to allocate space according to county populations, that is, every county would initially receive an identical *per capita* share of

existing prison space. An alternative principle would recognize that the need for prison space may not be proportional to county population; hence, an equal *per capita* formula may be challenged. (By analogy, state aid to education is not allocated by gross population, but rather by need, that is, the population of school age children.) Thus, one could argue that prison space should be allocated according to the number of active criminals in each county. This, of course, is not known, but a good substitute would be the total number of convictions for violent crimes or felonies in each county, averaged over, say, the most recent three to five years. Available prison space would then be allocated in proportion to this total in each county.

Advantages of the Economic Solution

The *most important advantage* is the information the auctions would provide to state government regarding the economic need for additional prison space — need measured by willingness to pay. Also, because prison space is no longer free to counties, they would have an incentive to consider carefully such alternatives as fines, probation, sentences short enough to be served in the county jail, or simply shorter prison sentences. If they use less than their allocation, there is a direct financial benefit in selling their excess space. Under the existing institutional arrangements, the incentive to use alternatives to prison incarceration is very weak because incarceration in state prisons appears to be free to the local decision-makers — county boards, prosecutors, and judges. In contrast, use of alternatives to prison incarceration frequently increases the financial burden on the county budget. In short, this approach permits each county's citizens to select any mix of sanctions that they are willing to pay for.

Two recent studies have reviewed the efforts to introduce alternatives to incarceration as a means of reducing prison populations. These studies both conclude that whatever other benefits the introduction of alternatives might have achieved, a significant reduction in prison populations was not one of them.

The foregoing review of the research literature on alternatives to incarceration suggests that their promise remains largely unmet. In each instance, the nonincarcerative options were transformed, serving criminal justice system values and goals other than reducing imprisonment. Sentencing alternatives, such as restitution and community service, are employed to enhance the increasingly criticised sanctions of probation and fines. There is little evidence that sentencing alternatives have substantially displaced incarceration. (James Austin and Barry Krisberg, "The Unmet Promise of Alternatives to Incarceration," *Crime and Delinquency*, Vol. 28 (July 1982).

A similar pessimistic conclusion was reached regarding the use of community correction programs.

To summarize, there is no evidence that the widespread adoption of community programs has reduced crime rates or the use of correctional institutions. Nor is it the case that community programs, by lowering recidivism rates, help to

reduce pressure on the correctional system to expand. (John J. Hylton, "Rhetoric and Reality: A Critical Appraisal of Community Correction Programs," *Crime and Delinquency*, Vol. 28 (July 1982).

One reason for the failure of sentencing alternatives to affect prison populations may well be the lack of incentives in the form of economic costs facing local authorities who impose the sentences and who are accountable to the local population.

Objections to the Economic Solution

There are bound to be different concepts of what is an equitable initial distribution of prison space to counties. However, allocating state resources among different groups is a type of issue with which state legislatures deal every day. There is no reason to believe that they will be unable to do a politically less acceptable job in this case than in the other allocation decisions they make. Further, the initial allocation decision is most important when prison space is subsequently revealed to be scarce in an economic sense, that is, when the initial auction prices are higher than the cost of additional space. In this case, more space should be constructed. The allocation of this additional space can be modified to correct any inequity that has been revealed by experience.

For several reasons, it would also be desirable to make an initial direct allocation of space to the Department of Corrections as well as to the counties. This space could be used during the transition period to assist counties with large fiscal burdens to adapt to the system by lending space. The DOC space could also be used as a buffer whenever new space was under construction. Finally, to the extent that certain crimes — class X in Illinois — have a mandatory prison sentence, counties would have no choice regarding the use of alternatives to incarceration. Therefore, it might be desirable for the prison space used by such convictions to be charged to the DOC allocation. (It could be argued that charging all of the space to DOC for such mandatory incarceration convictions would invite prosecutors to use their discretion to always set the charges for borderline crimes in the mandatory sentencing categories. This fear could be met by charging only some fraction of the space used for these mandatory incarceration convictions to counties and the remaining fraction DOC.)

Certainly many prosecutors and judges will argue that this solution imposes an unwarranted constraint on their sentencing responsibilities. Such a complaint fails to recognize that prison space is not a free resource; hence, it must *always* be subject to rationing by some method. The legally invalidated early release program of the DOC was one such rationing method. It was objected to because it amounted to DOC interference with local sentencing decisions — interference that lacked statutory authority. When indeterminate sentencing was in use, there is reason to believe that the rate of parole was influenced, in part, by institutional capacity. The scarcity of prison space makes interference with some sentences inevitable.

However, the proposed solution introduces interference that is less objectionable because it is subject to local control, that is, county sentencing decisions will only be limited by what county taxpayers will fund.

It should be emphasized that the proposed economic solution is superior to an early release program, even if one can be found that meets the objections of judges and prosecutors. An early release program corrects selected initial sentences to make prison capacities consistent with the current demand for prison space. It does not, however, permit counties that are willing to pay the cost of carrying out the initial sentences to do so. Further, the degree of scarcity is never converted into a dollar value; consequently, the need for early release only reveals that prison space is scarce when it is available to counties at a zero price. In contrast, auction prices provide a true measure of the degree of scarcity, information of value to both the state government for planning purposes and to judges and prosecutors when they are making their original sentencing decisions.

Concluding Comments

This proposal should be judged on its merits but also upon its merits compared to specific alternative processes for determining optimal prison capacity. The public decision regarding prison capacity and construction has correctly been called the tip of a policy iceberg:

Beneath this tip is the ...familiar but sterile ideological debate about crime and punishment...refocused into a searching debate over the fundamental purposes of incarceration. Does America, and should it, put people in prison in order to rehabilitate them and reintegrate them into society? Or should incarceration be solely a punishment for misdeeds, ... Or is prison merely a device to protect society by incapacitating the offender? Indeed is incarceration intended for the offender at all, or is its principal purpose to deter others from committing similar crimes? (Michael Sherman and Gordon Hawkins, *Imprisonment in America: Choosing the Future* (Chicago: University of Chicago Press, 1981, p. 6.)

The debate is sterile because the protagonists have so polarized the issues in the debate and the apparent choices. Most citizens would recoil from the lock-them-up-and-throw-away-the-key alternative when clearly faced with all of its implications in terms of tax costs and/or increasingly inhumane prison conditions. Similarly, after observing the daily parade of violent crimes provided by the media, a moratorium on prison construction must seem to most citizens like a crime control policy that starts with the body politic shooting itself in the foot.

Not only have these polar extremes monopolized the debate, but spokesmen for each have been unwilling, for tactical reasons, to discuss alternatives. To extend the metaphor developed by Sherman and Hawkins, it would be as if the debate regarding national security policy in a nuclear age offered the public only two policy choices — unilateral nuclear freeze or a preemptive nuclear strike.

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REAL ESTATE DEVELOPMENTS

Sharecropping and Illinois Agriculture

Salim Rashid, John T. Scott, Jr., and Sarwar Jahan

The main question motivating this study is whether the manner of exercising control over land influences land values. The question is of little significance in commerce and industry because the land necessary for these activities is either purchased outright or rented for a stipulated amount of cash. While both of these arrangements are present in agriculture, the extensive use of land and the peculiar risks incident to agriculture make a third basic type of lease, the share-lease, popular among farmers. While the share-lease can have many variants, its basic provision consists of an agreement between landlord and tenant to share the gross returns of farming equally between the two parties. Does this enforced "partnership" influence the efficiency with which farming is carried on? If so, then we might see that lands that are share-cropped have lower prices on the market.

Looking for Answers

We shall try to approach this question with data from the Illinois Farm Management Records for 1981. The application to Illinois is particularly relevant because economists (but not agricultural economists!) appear to have assumed that sharecropping exists only in poor or feudal economies.

In his famous *Principles*, the 19th century English economist Alfred Marshall provided two quite different analyses of the efficiency of sharecropping. His first model, which has become very famous and dominated the literature, predicted that sharecropping was inefficient because the sharecropper did not get his entire marginal return. He would therefore apply variable inputs, such as labor, to a lesser extent than a farmer (who had full control over marginal returns). Marshall's second analysis — which he himself underemphasized — argued that if the landlord could stipulate the amount of labor the tenant would have to supply, then the above problem was obviated and sharecropping would be efficient. Marshall's second model was rediscovered by S.N.S. Cheung who also emphasized its importance by showing the prevalence of such contracts in countries like Taiwan. It is therefore frequently called the Cheung model.

The following contrasts between the original Marshallian approach and the later Cheung model have been carefully spelled out by Clive Bell ("Alternative Theories of Sharecropping: Some Tests Using

Evidence from Northeast India," *Journal of Development Studies* (1977), pp. 318-46) and will be tested later in this article. Note that if the labor-intensity enforcement, or Cheung, view is correct, then sharecropping is, of course, efficient.

"Marshallian" analysis argues that inputs and outputs per acre will be lower on sharecropped holdings than those on owner-operated or on cash-rented holdings of the same fertility. The Cheung model contends that there will be no difference at all in these variables between the tenurial forms described above.

The Marshallian view argues that variations in fertility will have little influence on the rental share while the Cheung view holds that more fertile land will be associated with higher rental shares.

Traditional Marshallian analysis is unclear about the effects of cost-sharing. The labor-enforcement school argues that rent will have a tendency to rise if there is cost-sharing.

In the Marshallian framework tenants attempt to obtain as much land as possible and so will try to rent from more than one landlord. The Cheung framework suggests that renting from more than one landlord will be limited.

Description of the Data.

The data to be used in this study comes from a subset of farms from the Illinois Farm Business Records which are kept in cooperation with the Illinois Farm Business Farm Management Association and the Department of Agricultural Economics at the University of Illinois at Urbana-Champaign. The data are for 1981 and consist of all of the farms with usable records for both the tenant and landlord. The data are obtained from the business records of 8,230 Illinois farms.

The principal difficulty we faced was one of magnitude; it was simply impossible to utilize all the available data. Indeed, even the data for one year were too much for our resources and, after a preliminary examination, we had to restrict ourselves to work with only five of the nine available tenure classes: owner-occupied (OO), part owner cropshare (POCS), part owner cash lease (POCL), full tenant crop share (FTCS), and full tenant cash lease (FTCL).

Illinois agriculture is based largely on crop production, especially corn and soybeans. In 1981, Illinois ranked first in the nation in the production of soybeans and second in the production of corn. In terms of yields, 1981 was quite good with the average acre yielding 136 bushels of corn or 38 bushels of soybeans. Despite the high yields, increased operating expenses made 1981 a bad year for farmers. Northern Illinois grain farms averaged an income \$18,983 below that of 1980, while southern Illinois grain farms averaged income \$11,089 below that of 1980.

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The Evidence on Yields

The first test we would like to apply may be viewed as the acid test of efficiency — a comparison of yields across different forms of land tenure. The problems with condensing the data were noted earlier, and so we settled on comparing part-owners and full tenants hoping to get rough but useful comparisons.

If sharecropping is indeed inefficient, compared with cash leasing (or owner-management), then we would expect to find yields per acre (in bushels) to be lower for sharecropped land. In addition, if sharecropping is less productive, then those part owners who crop-share should have their overall productivity reduced as a result. We begin by examining the data for corn and soybeans in north and central Illinois in Table 1. The corresponding figures for southern Illinois are in Table 2, but since soil productivity variation is not considered quite so important in southern Illinois, the data are all lumped together in one soil category.

Even though it is possible for averages to hide much variation, the uniformity of the yield figures for corn on land of a given fertility rating — regardless of tenure — are quite striking. For soybeans, on the other hand, it appears that cash lease is more productive, but only on lands with the more fertile (86–100 rating) soils. Before drawing any inferences from these figures, let us turn to the figures from southern Illinois. Here the crop-share full tenant is clearly the most productive. Indeed, the crop-share tenant is more productive within any ownership class. While the figures from the north-central areas mildly suggest that crop-sharing is inefficient, the data from southern Illinois strongly argue just the contrary. This poses a new puzzle — why would a sharecropper operate more efficiently than an owner?

Table 1

North and Central Illinois

Soil Rating	Corn		Soybeans	
	86–100	56–85	86–100	56–85
Tenure				
Part Owner				
Crop Share	147	138	43	43
Part Owner				
Cash Lease	148	138	47	43
Full Tenant				
Crop Share	145	137	43	42
Full Tenant				
Cash Lease	146	136	48	42

Table 3

North-Central

	OO	POCS	POCL	RCS	RCL
Labor Costs Per Tillable Acre	661.3	39.5	57	39	71.5
Investment in Machinery					
Per Tillable Acre	583.8	104	141	98	145.5

The Puzzle of Input Usage

The most probable cause of differential outputs is the differential use of inputs. To test for this, the raw FBFM data were classified by inputs for each of the tenure types. The results are set out in Table 3 for north-central Illinois and in Table 4 for southern Illinois. In many ways, these tables provide the most remarkable result of this study. Indeed, they seem to contradict all of our preconceptions about leasing.

In the table for north-central Illinois the figures for owner-operated farms are so wildly different from the other figures that they must be viewed with some skepticism. The rest of the data show no obvious irregularities. It is worth focusing upon two rows in order to bring out the results that appear to be of interest. The rows for labor costs and investment in farm machinery have been separated out for this purpose. Both are variable costs and so the Marshallian hypothesis can be investigated with these variables. The last two columns seem to bear out the Marshallian model in striking fashion—sharecroppers used many fewer of these variable factors than did cash renters. The same phenomena are reflected in comparing the crop-share and cash-lease columns for the part-owners. Note the highly surprising feature that full-tenants use more variable inputs than do part-owners, and yet both have cash leases.

When we turn to the South, it is the figures for cash-lease renters that appear to be inordinately large. Since this category contains only 20 farms, it can be scrutinized in detail later or excluded. The behavior of the two variable costs is hardly uniform. According to pure theory, there should be no difference in variable costs incurred between owners, part owners cash-leasing, and full renters on cash lease. The figures for both North and South belie such a presumption.

Table 2

Southern Illinois

	Corn Soil Rating	Soybean 36–85
Part Owner		
Crop Share	114	37
Part Owner		
Cash Lease	109	36
Full Tenant		
Crop Share	121	39
Full Tenant		
Cash Lease	117	28

Table 4

South

	OO	POCS	POCL	RCS	RCL
Labor Costs Per Tillable Acre	129.2	45.8	66.2	64.7	944.4
Investment in Machinery					
Per Tillable Acre	160	124.3	142	110.9	1401.8

While the cash-lease, part-owners do use more variable inputs than the share-croppers, the part-owner crop shares are less intensive than the pure tenant sharecroppers. It is true that the above data do not correct for fertility, but the differences are so great that this consideration can be effectively ignored.

Cost Sharing and Rental Share Variations

While it is true that some cost-sharing does take place on many Illinois farms, the data needs to be interpreted carefully. To begin with, the extent of cost-sharing is by no means uniform and seems to be a bargaining point in many cases. In the 1930s the typical pattern was for the landlord to pay all the costs for some items and for the tenant to pay all the costs for others. While this has changed and costs are now shared for many items, the overall impact on efficiency is unclear. The reason for caution in interpreting the data is that the theory tells only that there exists *some* degree of cost-sharing that will lead to efficiency; and that this proportion will differ depending on the number and value of crops as well as prices. Any direct examination of the FBFM data for cost-sharing will reveal very little about the efficiency of sharecropping.

Having looked in some depth at the evidence from inputs and outputs, the remainder of the tests can be dealt with rather quickly. To begin with, the output-shares appear to be neither fixed by custom nor free to vary with fertility. In southern Illinois, where the land is least fertile, the average share stands at one-third; as we move northwards to more fertile lands the share rises to two-fifths and over all of north-central Illinois the share is pretty much fixed at one-half. While there is certainly some variation in shares with fertility, it is hardly enough to justify the Cheung model with its assumption that rates are set virtually in monopolistic fashion. This data also serves to cast further doubt upon the hypothesis that shares should rise with cost-sharing. As already noted, the share-rates seem to be substantially fixed, while the variation in cost-sharing is of such a mixed nature as to defy any direct comparison. The final prediction about multiple leasing by a single tenant is also hard to interpret. That there are several multiple leasings is undoubted, but this may be a reflection of technology under which efficient farmers must have a certain minimum amount of land in order to enjoy economies of scale. Or it may be a reflection of the "Marshallian" prediction that land will be rented until its marginal product is driven down to zero.

An Attempt at Statistical Analysis

The only definite conclusion that we seem warranted in making so far is that sharecropping is *not*

clearly inefficient. It would be desirable to go somewhat further and pinpoint the production relations across different tenurial arrangements. The more sophisticated method of doing this is by employing "duality theory" and fitting profit or cost functions rather than fitting production functions. Unfortunately, our profit relationships reveal little. None of the variables tested were significant, and the overall significance of our equations was low. Furthermore, we were unable to focus upon the causes for these dismal results.

Our second attempt was then to estimate a direct relationship between farm income and the various cost variables. This is not clearly justifiable from a theoretical viewpoint, but the general tenor of our results makes it a reasonable alternative. The results show that gross farm value of production can be predicted quite capably; we can account for some 70 to 80 percent of production by looking at the various inputs. But while other inputs were generally important, it was surprising to note that total capital invested was not a significant determinant of production. This is clearly a point requiring further investigation.

A comparison of results showed clearly that farming is not carried on in identical fashion across tenure groups. For example, in north-central Illinois, soil-rating and cash operating expenses contribute more to cash-lease tenants than to crop-share tenants, while total acreage does the opposite. The fact that these different groups nonetheless coexist suggests that the agricultural profit function is perhaps polyhedral, with many different activities capable of contributing in compensating amounts.

Conclusion

The aim of this article was to evaluate the impact of share tenancy on agricultural production efficiency in an advanced capitalistic economy. In retrospect, it is clear that we had underestimated the complexity of sharecropping, even in Illinois. The only definitive result we are entitled to claim is the absence of any evidence about the inefficiency of sharecropping. Our study has clearly raised more questions than it has answered. Do sharecroppers in fact produce just as much with lesser inputs? What is the contribution of invested capital to the agricultural production function? Is the agricultural profit function of a form such that a wide variety of different agricultural techniques is consistent with efficiency? What are the implications of these possibilities for the variations in land values? These are open questions for future research.

Tobin's q Ratio and Its Applications

K. C. Chen and James R. Garven

A new financial statistic, called Tobin's q after its creator, James Tobin, has developed a wide variety of uses in the business world in recent years. The q statistic can identify firms as likely targets of a takeover or merger bid and can act as an early warning signal of bankruptcy. It can also be used as a signal to undertake a capital project and can often tell which firm may be enjoying a degree of monopoly power in its market. In what follows, we discuss the calculation of Tobin's q and its applications to various business problems.

Measurement of Tobin's q Ratio

The calculation of q requires reasonable estimates of the market value of a firm's securities and the replacement cost of its assets. The q is simply the ratio of the market value of a firm's securities (common and preferred stock as well as debt) to the replacement cost of all of its assets. A ratio greater than 1, then, would indicate that the financial market values the firm more highly as a total going concern than as a collection of individual assets. While the q sounds simple, difficulties can arise in getting estimates of the two components.

Market Value

The market value of the firm is simply the sum of the market values of three types of securities: common stock, preferred stock, and debt. For a firm with publicly traded common stock, the market value of its common stock is simply the product of the stock's market price times the total number of shares outstanding. Unfortunately, the computation of the market values of preferred stock and debt is usually more difficult because these securities are less frequently traded than common stock and the appropriate price quotes are often not available. A firm's preferred stock market value can be approximated by dividing its total dollar amount of preferred dividends by the Standard & Poor's preferred stock yield index (the average yield on preferred stock). That is, if the market preferred dividend yield averages around 5 percent, we can assume that the dollar amount of our firm's preferred dividends is 5 percent of its total value, or

$$\begin{aligned} .05 \times \text{Total Value} &= \text{Preferred Dividend Payment,} \\ \text{or} \\ \text{Total Value} &= \frac{\text{Preferred Dividend Payment}}{.05} \end{aligned}$$

Similarly, the market values of bond issues can be estimated by using an average market yield on bonds with similar ratings. These bond values must then be

added to the book value of the firm's current liabilities (really short-term debt) to get an estimate of the market value of the firm's total debt.

Replacement Cost

Replacement cost is the dollar outlay required to purchase the current productive assets of a firm at minimum cost and with the most efficient technology available. To determine replacement cost we must not only measure the inflation-adjusted cost of capital assets but also adjust for technological progress. This may not be as difficult as it sounds, because in 1976 the Securities and Exchange Commission began requiring large companies to provide replacement cost data on their SEC 10-K filings. This disclosure of replacement-cost data may then supply the data needed to estimate the denominator of Tobin's q ratio.

Research Applications of Tobin's q

The q Theory of Investment

As noted earlier, the q ratio can play an important role in capital spending plans. If the marginal value of q exceeds 1 on an investment activity, investment will tend to be stimulated. In essence, firms stand to realize more in terms of the market's valuation of an investment project than the project's current replacement cost. In view of this "excess" valuation, a firm will increase its market value by taking on such a project.

To illustrate, an increase in the market value of used housing (the q numerator) relative to the current costs of building new housing (the q denominator) should signal the building trade to increase construction, since home prices are rising in relation to the cost of building them. Thus, as the q of housing rises, the profits available to contractors will be relatively high, encouraging residential construction activity.

On a broader level, the q statistic can be related to national activity. The q theory of investment suggests that when the q ratio is relatively high, it is more advantageous for firms to acquire new assets. The choice of new assets in turn affects the rate of capital spending in the economy. Thus the q can indicate the likelihood of economic expansion in business sectors.

Tobin's q Ratio and the Theory of Mergers

In recent times, the considerable size of the premium over market price offered stockholders in tender offers has resulted in a large amount of controversy in the financial and academic press. Specifically, the question being asked is, why should acquiring firms value the assets of target firms so much more than the stock market does? One possible answer to this question is provided by referring to Tobin's q

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ratio. The Table summarizes measures of the q ratio for nonfinancial US corporations during 1960–1980.

Table

Tobin's q Ratio for Nonfinancial US Corporations, 1960–1980

Year	q
1960	0.956
1965	1.250
1970	0.863
1972	1.012
1974	0.663
1976	0.740
1978	0.602
1980	0.526

Source: Council of Economic Advisors

Why has the q ratio declined so precipitously in recent years? This question is easily answered by considering the very different impact that inflation has upon the numerator and denominator of the q ratio. Inflation generally depresses real firm earnings, resulting in lower stock prices. However, that same inflation significantly increases the replacement costs of firm assets. With the market values of many companies substantially below their replacement costs (low q ratios), acquiring firms can earn higher returns by buying existing firms rather than by investing in new plants and equipment, even if takeover premiums are quite high. Thus the q can give a good indication of the ripeness of a firm for a takeover bid. A number of researchers have considered merger activity in a slightly different light. Conglomerate mergers in particular may occur so that the acquiring firm can gain access to more favorable investment opportunities in another, unrelated industry. And a firm which could not take advantage of such opportunities before the merger due to its depressed stock levels (low q) may be able to do so as part of a conglomerate with presumably higher stock value. Here, too, a low q ratio is a signal of prime merger targets.

q , Monopoly Power, and Unique Factors of Production

In a recent paper published in the *Journal of Business*, Eric Lindenberg and Stephen Ross use Tobin's q to measure the extent of monopoly power in the US economy. Theoretically, q should be close to 1 for competitive firms, but greater than 1 for firms with monopoly power. That is, if a competitive industry's q is greater than 1, q would tend to be driven down toward 1 as new firms enter the industry. On

the other hand, a monopolist who either can successfully bar entry or is not adequately regulated will earn monopoly profits. Similarly, a firm that possesses unique factors of production that act as barriers to the entry of competitors will earn "quasi-profits." The securities markets will value these profits, causing the market value of the monopolist or firm which possesses these unique factors to exceed the replacement cost of its capital stock; that is, q will be persistently greater than 1.

Lindenberg and Ross found that firms with persistently high q ratios are often those which are known to have unique products or factors of production. For example, Avon Products, a firm with a unique marketing organization, had the highest q ratio in their sample. Conversely, Lindenberg and Ross found that public utilities (highly regulated) and steel firms (a contracting industry) had q ratios that were generally significantly less than 1.

Tobin's q Ratio and the Theory of Bankruptcy

Bankruptcy is unquestionably one of the more significant forms by which exit from an industry is accomplished, both from the perspective of the welfare of the claims-holders of failed firms as well as from a broad societal viewpoint. One would expect that as a firm moves toward failure, its q ratio should decline as the financial markets begin to incorporate the increasing probability of bankruptcy and its attendant costs into the pricing of the firm's financial claims.

The Lindenberg and Ross paper offers some evidence of this decline. Although they did not analyze failure per se, they did take note of the fact that a significant number of firms in their sample with low q ratios are members of dying industries. The main difference between a firm with a low q ratio due to impending bankruptcy and a bankrupt firm is that the value of the not-yet bankrupt firm as a going concern exceeds both its value as a reorganized going concern or its value in liquidation. In the case of the bankrupt firm, its market value has deteriorated to the point that this is no longer true.

Conclusion

Thus, Tobin's q can be utilized on a variety of levels to analyze firm-specific problems, such as bankruptcy, investment analysis, and merger activity, as well as to analyze industry-level concerns such as capital spending and monopoly profits. Since the q represents a fertile area of financial research, more use is likely to be made of it as knowledge increases.

(continued from p. 2)

The Outlook

It is reasonable to expect the economy to continue its expansion at rates near those of the recent past. The rise in activity does not reflect heroic economic policies. Fiscal policy has not been unduly expansive, notwithstanding the enormous deficits. Nor is it clear that the large deficits associated with the overall fiscal posture of the nation have contributed to high interest rates. In fact, as indicated, interest rates have fallen during the period that the deficit has burgeoned. Monetary policy cannot claim a major expansive role. Although the rate of money supply (M1) growth has been quite rapid, it is reasonable to suppose that there has been an accompanying increase in the demand

for those financial assets currently included in measures of money. Those who argue that monetary policy is restrictive are presumably discussing the relatively high interest rates. But interest rates are high by virtue of forces at work over the post World War II period. As indicated above, interest rates have moved higher over the past 30 years. There is no presumption that this underlying trend in interest rates results from restrictive monetary policies.

The economy will continue to move forward because of expansive forces inherent in the economy at this time. Although developments in the economy are accompanied by the discordant sounds of two mighty choruses, neither chorus has had much independent impact. At best, the happy sounds of joy and the rumblings of discontent provide an interesting diversion.

(continued from p. 5)

The proposal presented here does not espouse or reject either of these polar positions. Rather it seeks to present to the public at the local level, where detailed sentencing choices are made, *all of the legal alternatives and the economic costs associated with each*. This is not to conclude, however, that only economic costs and moral values are relevant for sentencing. Scientific evidence on the marginal deterrent and rehabilitative effects of incarceration as well as alter-

native sanctions is also important. The search for reliable estimates of these effects should certainly continue and the results be introduced into the sentencing policy as they emerge.

I submit that the decision process advocated here for determining prison-capacity needs, while not perfect, is perfectable as knowledge and experience accumulate, and it provides a better alternative than episodic crisis cures shaped primarily by the heat of ideological rhetoric.

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	Percent Change Sept. 1982- Sept. 1983	Sept. 1983	August 1983	July 1983	June 1982	Sept. 1982	August 1982
Coincident indicator (1969=100)	-1.54	96.62	96.24	101.01	100.62	98.13	99.25
Employment-manufacturing (in thousands)	-1.49	989.3	981.7	975.8	973.1	1,004.3	1,009.1
Average weekly hours-manufacturing	5.61	41.4	40.7	40.2	40.6	39.2	39.5
Weekly earnings-manufacturing	10.19	\$408.62	\$398.45	\$392.35	\$395.04	370.83	371.70
Help wanted advertising-Chicago (1967=100) ^a	65.79	63	49	.54	47	38	41
Help wanted advertising-St. Louis (1967=100) ^a	28.13	41	43	50	53	32	35
Retail sales (in millions) ^b	8.84	\$4,705	\$4,541	\$4,581	\$4,729	\$4,323	\$4,413
Coal production (in thousands)	-6.57	5,220	5,593	3,615	4,720	5,587	5,745
Petroleum production (in thousands)	.61	2,460 ^b	2,460	2,540	2,460	2,445	2,530
Vendor performance, (percent) ^c	30.34	61	52	52	52	46.8	42.3
Building permits (in thousands)							
Residential housing units	-14.04	2,785	2,969	3,853	2,928	3,24	1,37
Value of residential housing	32.40	\$147,134	\$168,043	194,364	\$166,952	\$111,131	\$63,456
Value of nonresidential construction							
Industrial buildings	6.54	\$12,369	\$25,603	\$13,359	\$10,000	\$11,610	\$20,573
Office, banks and professional buildings	218.33	\$63,398	\$51,894	\$48,877	\$24,178	\$19,916	\$33,687
Stores and other mercantile buildings	63.29	\$18,019	\$10,297	\$18,966	\$11,744	\$11,035	\$10,511
Other ^d	23.0	\$5,079	\$5,416	\$3,742	\$2,801	\$19,785	\$27,959
Consumer price index							
North Central US ^e	1.99 ^f	-	163.7	-	162.5	-	160.5
North Central/population more than 1,250,000	2.71 ^f	-	166.6	-	165.2	-	162.2
North Central/population 385,000 to 1,250,000 ^e	3.31 ^f	-	162.2	-	162.0	-	157.0
North Central/population 75,000 to 385,000 ^e	.44 ^f	-	159.6	-	158.3	-	158.9
North Central/population less than 75,000 ^e	.31 ^f	-	160.7	-	159.3	-	160.2
Chicago (1967=100)	3.06	303.0	301.6	299.6	298.6	294.0	293.2
St. Louis (1967=100)	2.69	302.0	-	299.3	-	294.1	-
Prices received by farmers ^g	20.95	127 ^h	124	112	110	105	110
		1983:I	1982:IV	1982:III	1982:II	1982:I	1981:IV
Personal income (in millions)	5.0 ^h	\$142,988	\$141,560	140,832	\$138,355	136,518	\$136,636

^aThe Conference Board, *Help Wanted Advertising*, September 1983. ^bLatest month projected by BEBR. ^cSeasonally unadjusted beginning in December 1982. ^dDefinition changed December 1982; percent changes use consistent definition. ^eDecember 1977=100. ^fPercent change between August 1982 and August 1983. ^gPercent change between 1982:I and 1983:I. ^hPreliminary figure ⁱDue to data unavailability these figures have not appeared in the past two *IBR*'s. The series will be included in future issues.

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A Summary of Supply-Side Economics

David Mandy

The American people have been inundated for the past several years with references to a new set of economic theories. To some, these new theories represent our salvation. Others argue that they will contribute to our demise. This barrage began in earnest with the campaign for the 1980 Presidential election, and the theories have been the source of such controversy that the underlying set of ideas has been called everything from "Reaganomics" to "voodoo economics." Given the controversy and the fact that another presidential campaign is getting underway to intensify it, it seems appropriate to describe briefly the ideas underlying supply-side economics. Obviously, it is impossible in the course of this article to discuss all of the many nuances associated with supply-side economics. Aspects considered to be crucial by some are likely to be omitted. However, every effort has been made to include the major concepts. It should also be noted that there is no intent to support or to deny the validity of the supply-side theories. Rather, the purpose of this article is to spell out the theories and to describe some of the major issues.

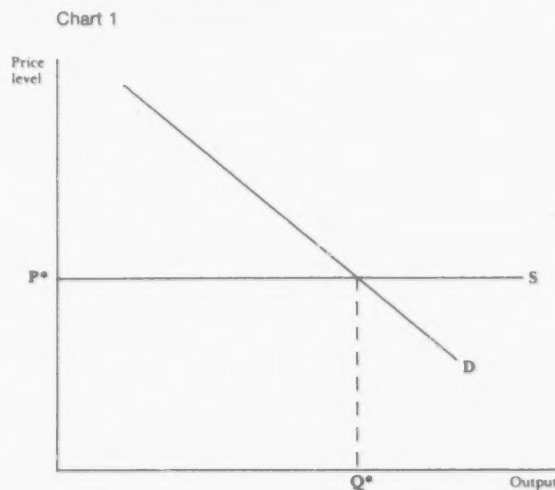
History of the Current Controversy

Prior to the Great Depression of the 1930s, the mainstream body of economic thought asserted that there is little or nothing that the government can do in order to affect the levels of output and employment. Prevailing theory concluded that attempts by the government to manipulate the economy would simply worsen the situation. If we would only wait, we were told, the economy will automatically gravitate toward a point where everyone who wants to work will have a job and the output produced will be at its "full employment" level.

Perhaps it was inevitable that the Great Depression would bring into question this body of thought. The Depression was simply too severe and lasted too long to be explained as a downturn that would correct itself, given enough time. One of the consequences of the Depression was the publication of the path-breaking book by John Maynard Keynes entitled *The*

General Theory of Employment, Interest, and Money. In 1936 when *The General Theory* first appeared, it was considered revolutionary. It advocated active policies by the government to bring an end to the Depression. Specifically, Keynes advocated increased government spending and decreased taxation. Such action can be accomplished only if the government is prepared to run a budget deficit, at least in the short run. This was so contrary to contemporary orthodoxy that Franklin D. Roosevelt was elected in 1932 on a Democratic platform of a balanced federal budget and an end to Republican "extravagance."

The Keynesian prescriptions stem directly from his assumptions concerning the functioning of the economy. It is perhaps easiest to see this through the use of a simple supply and demand diagram. This diagram relates the aggregate output of the economy to the overall price level. The basic assumption Keynes made was that the quantity of output produced is so highly responsive to the price firms receive for this output that a small change in the price level will bring about a very large change in the quantity of output supplied. Thus, the supply curve is very flat or perhaps even horizontal, as shown in Chart 1.



The implications of this assumption are twofold. First, the price level is fixed by the position of the supply curve, in this case at P^* . The only way this price level can change is if the supply curve shifts. Therefore, as long as we do not do anything to shift the supply curve, we need not worry about inflation. Secondly, the level of output, in this case Q^* , is determined exclusively by the position of the demand curve. If demand decreases so that the demand curve shifts left, then the quantity of output produced and sold in the economy will decrease. Conversely, if demand increases so that the demand curve shifts right, then the quantity of output produced and sold in the economy will increase.

Given this view of the world, it is clear that anything which serves to increase the demand for the output of the economy will serve to increase the amount of output that gets produced and sold. Since it presumably takes more workers to produce more output, the higher level of output corresponds to more employment, or less unemployment. Thus, what was needed to cure the chronic unemployment of the Great Depression, according to Keynes, was an increase in the demand for the goods and services produced by the economy.

Once this argument is understood, the Keynesian prescriptions for the ailing economies of the world follow immediately. Increased government spending is a direct increase in the demand for goods and services, with the government doing the demanding. Decreased taxation will also result in increased demand since lower taxes leave consumers with more income to spend, at least part of which will presumably be spent on the goods and services produced by the economy. Hence, Keynes advocated that governments run budget deficits in order to stimulate aggregate demand and decrease the rampant unemployment that existed.

It was not until after World War II, when economists examined the effects of the tremendous increases in government spending on war goods, that the Keynesian principles and policies were embraced by a large part of the economics profession. In retrospect, most economists would argue that it was not until after this large increase in demand by the government that the United States truly recovered from the Great Depression. It should be noted that the Keynesian policies, or at least those policies that

became popular, were what we might call "demand-side" policies. That is, they concentrated on manipulating aggregate demand and paid little attention to aggregate supply.

From World War II until the early 1970s, the Keynesian approach became the standard textbook understanding of the way our economy functions and the role that the government plays in our economy. Examples abound to illustrate the permeation of the Keynesian principles in our society. In 1946, a bill was passed that stated that it was the federal government's responsibility to "...promote maximum employment, production, and purchasing power." In 1964, for perhaps the first time in our history, a tax cut was enacted with the express purpose of increasing demand and thereby reducing unemployment. This tax cut succeeded in reducing unemployment, further convincing economists and laymen alike of the accuracy of the Keynesian logic. All of this prompted Richard Nixon to summarize the feelings of the economics profession when he proclaimed, "I am now a Keynesian."

Beginning in 1968, however, the Keynesian logic came into question when a tax increase was implemented in order to reduce demand — an application of the Keynesian prescriptions in reverse. The goal was to reduce demand in order to prevent our demand for goods and services from exceeding our ability to produce. By this time it was believed that excess demand would cause prices to increase. Unfortunately, the tax reduction did not work as expected, and a similar attempt in 1975 also failed to bring about the change in demand that was anticipated.

Due to the marginal performance of these policies and the obvious illustration in the 1970s that prices are not in fact fixed, new theories began to appear. These theories attempted to explain what was occurring and what the government could do about it. Supply-side economics is one theory that emerged. It is to this theory that we now turn.

Some Theoretical Underpinnings of Supply-Side Economics

The basic difference between Keynesian, or demand-side, economics and supply-side economics lies in the assumptions made regarding how the economy functions. In contrast to Keynes, supply-side theorists assert that the aggregate supply curve of Chart 1 is not horizontal but is upward-sloping or perhaps even vertical. That is, the assumption made by supply-side theorists is that the output the firms in the economy will be willing to produce is not as responsive to changes in the price level as Keynes suggested. This situation is depicted in Chart 2.

This assumption leads to conclusions that are very different from the Keynesian inferences. First, the price level (P^*) and the level of output (Q^*) are determined simultaneously by the intersection of the supply and demand curves. Specifically, notice that if demand is increased according to Keynesian remedies for a recession, the resulting increase in output will be accompanied by an increase in the price level as

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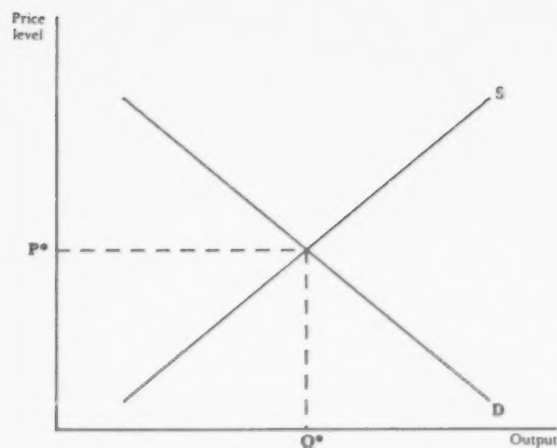
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Chart 2



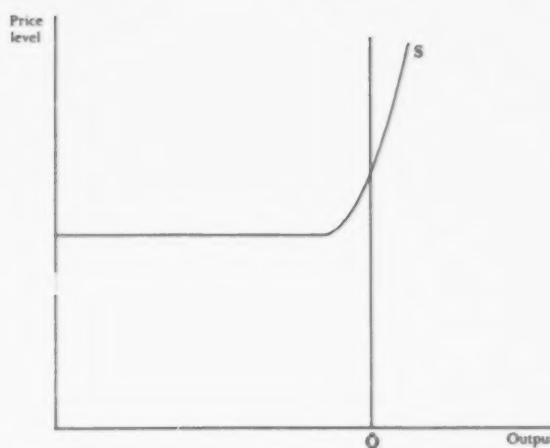
well. Therefore, when the government incurs a budget deficit by increasing its spending and/or decreasing taxation, the result may be higher prices and inflation as well as lower unemployment. The familiar trade-off between inflation and unemployment results from this type of reasoning.

The relative increases in price and output obtained when demand is increased depend upon the slope of the supply curve. A fairly flat supply curve will yield results similar to the Keynesian results discussed above, whereas a steep supply curve implies that changes in demand will lead to large changes in prices and small changes in output. Note that the extreme case of a vertical supply curve implies that demand shifts will not affect output at all; only prices will change. Keynesian policies designed to combat a recession can therefore be quite undesirable if the supply curve is steeply sloped, since prices will increase while output does not change significantly.

It is clear from the above arguments that a question basic to any discussion of government policy is the actual shape of the aggregate supply curve. Although there is no consensus on this question, an eclectic approach that most economists would probably endorse asserts that the supply curve appears as shown in Chart 3.

The rationale for this shape of the supply curve is as follows: let $\bar{Q}$ represent the quantity of output the economy is capable of producing if the resources available are "fully employed." This does not mean that the firms in the economy are incapable of producing more than $\bar{Q}$ units of output. It simply means that to do so would require firms to overutilize the resources available to them (that is, pay overtime and operate equipment more hours per day than would be considered "normal"). If the level of output being produced is significantly below the level firms are capable of producing ($\bar{Q}$), then the supply curve is envisioned as being fairly flat. That is, when there is a great deal of excess capacity, it does not take a large increase in prices to persuade firms to produce more output. Firms will willingly produce as much as they can sell under these conditions. There are those who

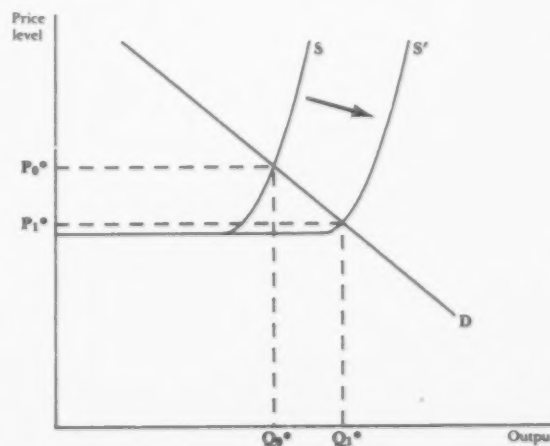
Chart 3



believe that this situation existed during the Great Depression and is the situation that Keynes imagined when he wrote *The General Theory*. We have already seen that under these conditions the Keynesian prescriptions for reducing unemployment will be effective. If the level of output is near $\bar{Q}$, however, firms can only produce additional output if they strain their capabilities. They will be willing to produce this output only if they receive higher prices to cover the increased costs of producing this extra output. Hence, near $\bar{Q}$ the supply curve slopes upward and eventually becomes practically vertical. If, at this level of output, we desire to decrease unemployment even further, the Keynesian prescriptions will obtain the desired result only at a high cost in terms of inflation.

Given this supply curve, it is of obvious interest to seek a method of reducing unemployment when the economy is near $\bar{Q}$ while avoiding the inflation that accompanies Keynesian policies. From a purely analytic point of view, Chart 4 illustrates that this can be accomplished if we increase supply and, thereby, shift the supply curve to the right. The chart shows that this sort of shift will cause output to increase from Q_0^* to Q_1^* , as desired, and prices to decrease

Chart 4



from P_0^* to P_1^* . We thus obtain lower unemployment and lower prices. This is the basic tenet of the supply-side school of thought. Since an increase in supply results in lower unemployment and lower prices (assuming demand is fixed), we should seek out policies that will change supply instead of relying solely on Keynesian policies that manipulate aggregate demand. In this way we can avoid the undesirable side-effect of inflation. The analytics of this assertion, given the assumptions made, are essentially sound. The real issues arise, however, when we attempt to identify policies that will increase supply while leaving demand unchanged.

Supply-Side Policies

Most policies directed toward increasing aggregate supply attempt to decrease business costs so that firms will be willing to produce more output at any particular price. Policies that fall directly under this category are decreases in the payroll taxes and corporate income taxes. Supply-side advocates argue that both of these policies make conducting business more profitable and therefore make businesses willing to supply more output. The movement toward deregulation of many industries is also viewed by some as a cost-decreasing policy. Deregulation presumably eliminates certain requirements that are expensive for firms to meet. In addition, deregulation is believed to enhance competition among firms, thus forcing some firms to sell their output at a lower price, which corresponds to an increase in supply.

Another group of policies that fall under this general category are designed to stimulate investment and thereby augment the capital stock of the country. These policies pursue this goal by making it cheaper for firms to invest. It is argued that a larger capital stock increases the productivity of individual workers, thus making it profitable to hire more workers and produce more output. One characteristic of these policies is that, because investment is a relatively slow but permanent process, their effects will be felt with a lag. Some opponents to supply-side policies object to these investment-stimulating policies because of this perceived slow reaction time; but supply-side advocates point out that once the investment has taken place, it will continue to enhance productivity for many years. For this reason supply-side economics is often referred to as having a longer-run orientation than demand-side economics. Specific policies that are advocated as being investment stimulating include increasing the investment tax credit, accelerating depreciation schedules, decreasing capital gains taxes, and increasing expenditures on research and development and education. The first three of these serve to directly decrease the costs associated with purchasing capital equipment, while increasing government spending is meant to advance the state of technology to provide more productive equipment for firms to purchase. It should be noted that although these policies are advocated by the supply-side school, some of them are not really new ideas. The investment tax credit and accelerated depreciation schedules were

both implemented by Nazi Germany prior to World War II, while the investment tax credit first appeared in the US during the Kennedy Administration.

Another approach to stimulating investment is one that asserts that we must keep interest rates low in order to provide inexpensive funds for firms to borrow to finance investment projects. Aside from conventional monetary policy tools, policies aimed at achieving this objective include decreases in taxes on interest and dividends and income tax cuts to high income individuals. These two policies are envisioned as increasing the pool of savings available for firms to borrow, therefore reducing the interest rate. The income tax cuts are restricted to high income individuals because it is felt that these people will save more of the extra income than lower income individuals.

Finally, there are several policies designed to stimulate supply by furnishing incentives to workers to increase productivity. Policies supported in this vein are decreased income taxes and decreased transfer payments. Some supply-side advocates argue that if workers receive more of the income they earn, then they will be motivated to work harder and/or longer. Thus, a decrease in income taxes is in order. It is also argued that decreased transfer payments increase the cost of not working. Thus, for example, reduced welfare might force some individuals to work who might not otherwise contribute to the production of output in the economy. Increased funds for education falls under this category as well since a better-educated work force is believed to be more informed on the methods and goals of their employment. These workers are therefore better suited to their jobs and are able to produce more efficiently.

Opponents of supply-side policies raise many objections to the policies described above. We have already mentioned the objection to the slow reaction time associated with investment-stimulating policies. Another objection to these policies is that, instead of increasing employment, any increases in output will be produced by machine and that many workers will become technologically unemployed. In addition, some argue that any policy that increases investment, government spending (education and research and development), or consumption (tax cuts to individuals) stimulates aggregate demand. If this shift is large enough relative to the supply shift, then the end result may be increased prices as well as increased output. These same tax cuts are often accused of increasing the federal deficit. A counter to this argument that is sometimes advanced by the supply-side school is that, over time, the tax cuts may promote enough additional activity to actually increase the government's tax receipts. Another objection to supply-side policies is that some feel that the government is simply incapable of significantly affecting the position of the supply curve. These individuals assert that if these policies have any serious impact at all it will be on the demand side and that the effect on the supply curve will be small. The opposition to supply-side economics also questions whether decreasing income

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Changes in Banking Law

Larry E. White

The US financial sector in general and the banking sector specifically, has been evolving during the 20th century and at an accelerated rate since the mid-1970s. Finally, in 1980 and 1982, the legislation has been passed to meet the needs of the changing banking system. The following will highlight both the evolutionary changes in banking and recent banking legislation.

Transition Period: 1933-1980

On 16 June 1933, the Banking Act of 1933, also known as the Glass-Steagall Act, was passed by Congress and had important and long-range effects upon the banking system of the US. While the main purpose of the bill was to establish the Federal Deposit Insurance Corporation (FDIC), it also redefined Regulation Q, which limited the amount of interest paid on bank accounts. It specifically set a zero interest ceiling on accounts that were payable upon demand and established a framework so that ceiling rates could be set and adjusted on other accounts. Many banks had failed during the early years of the Depression, and this act was an attempt to maintain the solvency of the remaining banks. The FDIC protected bank customers against default, while interest rate ceilings were an attempt to lower bank costs legislatively in order to discourage the need for high-risk bank assets. Whether the bill achieved its objectives is subject to debate, but the evolution of the banking industry that took place between 1933 and 1980 mandated a change in banking laws.

The period from 1933 to 1980 was one of financial evolution that was not accompanied by adequate legal evolution. Banking changed substantially, but banking laws did not. During the 1940s, 1950s, and 1960s, it was easy for anyone to distinguish one financial institution from another. Banks, which were protected by the FDIC, held demand deposits (checking accounts) and made commercial loans; savings and loans, which were protected by the FSLIC, held savings accounts and long-term residential mortgages; retail businesses, like Sears, and brokerage houses, like Merrill Lynch, were not protected because they did not accept deposits. As interest rates began to rise in the post-war period, Regulation Q became a binding constraint, and the evolution of financial sector accelerated. Banks, S&Ls, and the like began to assimilate into somewhat indistinguishable financial or depository institutions. An early step of transition was to circumvent Regulation Q. To avoid Regulation Q's zero interest rate ceiling on demand deposits, banks offered payments in kind and certain institutional innovations to their customers. Payment in kind ranged from a free toaster for opening an account to free checking privileges and similar services. Overnight repurchase agreements and Eurodollars allowed large deposit customers to have access to funds during business hours while earning an

interest payment on that portion of the total still on account at closing time. A second step was a new legal account offered in Massachusetts where state agencies insured deposits, thus avoiding many federal regulations. In 1970, Consumer Savings Bank of Worcester, Massachusetts offered a negotiable order of withdrawal (NOW) account for the first time. With certain restrictions, small deposit customers, as well as large, could have an interest-paying checking account. NOW accounts were eventually allowed by the federal authority in New England and New York. In the mid-1970s, brokerage houses began to offer money market mutual funds as an alternative to savings accounts. Small depositors who could not afford the \$100,000 needed to purchase a Treasury bill could pool their money through a brokerage house to receive a closer-to-market rate of interest. Even retailers, such as Sears, began to diversify by entering the financial sector, vowing to be a one-stop, financial supermarket, catering to the needs of all. By 1979, financial institutions had evolved to a point that the Glass-Steagall Act was obsolete and changes had to be made.

Depository Institutions Deregulation and Monetary Control Act of 1980

The first of these changes was the Depository Institutions Deregulation and Monetary Control Act of 1980 (DIDMCA). Instead of referring specifically to "banks," "S&Ls," and so on, as before, the act redefined "depository institution." A depository institution is one in which checking, saving, and/or other types of accounts are held and insured against loss by the FDIC, the FSLIC, or similar nonfederal agencies. It also defined "transaction account" to include all accounts in which the balance could be altered upon demand, whether it paid interest or not. Specifically, it included checking, NOW, ATS (automatic transfer from saving), and credit union share draft accounts. Any small depositor could receive interest on his demand deposit within certain minimum-balance and maximum-withdrawal limits set by each particular facility. It also established the Depository Institutions Deregulation Committee (DIDC), whose responsibility was to supervise the six-year phase-out of Regulation Q. By 1986, the interest rate paid on transaction accounts would be solely controlled by each particular depository institution. In terms of monetary control, the DIDMCA established uniform reserve requirements for all depository institutions. Reserves of 3 percent are required for time deposits, and transactions deposits under \$25,000,000, and 12 percent reserves are required for transactions deposits exceeding \$25,000,000. Finally, the DIDMCA allowed savings and loans to have 20 percent of their portfolios made up of consumer loans, corporate debt securities, and commercial paper. This was done to

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REAL ESTATE DEVELOPMENTS

The Elderly as Consumers of Subsidized Housing: Anticipated Impact of the Rent Voucher Program on Private Real Estate Investments

Leonard F. Heumann

The Reagan administration is preparing to introduce a new rent voucher program that could significantly alter the consumption patterns of households eligible for rental subsidies. The current subsidy programs attach the subsidies to specific rental units. The rent voucher program would assign the eligible low income renter a certificate (or cash) that could be used to rent housing anywhere on the private market. Two of the goals of the new subsidy program are to give low income renters increased flexibility and variety in housing locations and choice, and to have decreased visibility by integrating them into the larger rental market. An additional goal of these vouchers is to spark new "voluntary" private rental construction with the increased market demand produced by the vouchers, and to decentralize low income housing management and make it more efficient. This article will focus on the elderly consumer (age 62 and older) eligible for subsidized housing, and his/her likely response to the new voucher program. In particular, the article seeks to identify any changes in demand by the low and moderate income elderly that will generate new investment opportunities for private housing developers/managers.

The Study Sample

This study focuses on the current elderly residents of rent subsidized housing and how they might react to a rent voucher program. One reason for concentrating on residents of existing rent-subsidized housing is simple pragmatics. They are easy to identify, relatively concentrated, and representative of persons who will meet the income eligibility for the rent voucher program. They are also among the most likely candidates for the rent vouchers. They are already in the government housing subsidy network and would be the first to become informed of the rent voucher alternative should it become law. In essence, they would be free to choose between their current subsidized housing and a rent voucher. They might opt for the voucher for any number of reasons: greater anonymity, more desirable housing type or housing location, and so on. The likely size, character,

and location of the demand among the elderly in existing rent-subsidized facilities is the subject of this paper.

The study was conducted in ten cities in Illinois in the summer of 1983. These cities constitute half of the urban municipalities (cities over 50,000 population) in Illinois and they are: Aurora, Champaign-Urbana, Chicago, Danville, Decatur, East St. Louis, Evanston, Peoria, and Springfield.

Survey Methodology

Rather than interview the elderly themselves, researchers often identify and interview "key informants" who are familiar with a large number of eligible elderly, their housing preferences, and, more important, the conditions under which they have moved in the past. This is the approach employed in this study. The prime targets were housing managers and social service coordinators who have direct daily contact with elderly residents in subsidized facilities. Key informants were identified for 100 percent of the subsidized housing facilities in the nine cities outside of Chicago; and for 30 percent of the facilities in Chicago (which were chosen in a random sample). The interviews were conducted for the most part by telephone. A total of 151 facilities were identified.

The federal government has traditionally separated housing schemes under all its subsidy programs into two types: elderly housing and family housing. Because the elderly are eligible to live in both the age-segregated elderly facilities and the age-integrated family facilities, this study interviewed managers of both housing types.

Key informant interviews were completed in a total of 70 facilities for the elderly and 47 family facilities. The primary reason for the smaller number of completed surveys in family facilities is that 20 percent of the facilities had five or fewer elderly households. This cutoff was used to assure the key informants that they could speak confidentially and not violate the privacy of their residents.

Not all subsidized housing programs were included in the study; only those likely to have a manager or social service coordinator who works with and knows the residents. These programs include traditional public housing projects, federal and state "below market interest rate" programs for rental construction, and the "new construction" portion of the federal Section 8 rent subsidy program. Not included are the "scattered site" public housing program or the "existing" rent subsidy element of the Section 8 program. Under these latter programs the

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subsidized housing unit is integrated with other housing units in the larger community and is unlikely to have an identifiable key informant who is knowledgeable about the various program participants. The survey covers over 35 percent of the total subsidized housing units in Illinois.

Profiles of the Elderly in Subsidized Housing

To understand why the key informants identify a given level of demand for rent vouchers among the elderly in existing subsidized housing, it is important that we first describe the current housing situations of those elderly and their past reasons for moving and staying, as well as their potential future housing needs.

Despite the introduction and heavy funding of Section 8, new construction and other subsidy programs in the 1970s, public housing still accounts for 51 percent of all elderly subsidized housing and 82 percent of all family subsidized housing in the ten cities studied. And despite an effort by housing authorities to move the elderly out of family public housing in recent years, almost 30 percent of the elderly living in public housing in Chicago, live in family projects; and almost 25 percent of the elderly in public housing in the other nine cities studied live in family projects. Fewer elderly live in the other types of family subsidized housing: 12 percent in Chicago, 13 percent in the other nine cities.

Black elderly are more likely to live in family public housing than are white elderly, while white elderly are more likely to live in elderly public housing than are black elderly. In Chicago 38 percent of all black elderly living in subsidized housing facilities lived in family projects in 1977-1978 compared to 12 percent of the white elderly. In the other nine cities, 68 percent of the black elderly lived in family housing projects compared to 24 percent of the white elderly. The key informants were asked seven questions about the safety and supportive nature of their facilities for the elderly. On all seven measures, in all the cities surveyed, these managers and social service coordinators rated the family housing two to ten times less safe or supportive than elderly segregated housing. For example, for the category "unsafe neighborhood location," 14 percent of housing for the elderly was cited, family housing 36 percent; for "building contains physical barriers that are difficult for elderly to negotiate, elderly housing nine percent, family housing, 47 percent; and for "inadequate provision of social services," elderly housing five percent, family housing 66 percent.

In Chicago the racial mix of existing subsidized housing projects tends to be the same as the racial mix in the surrounding neighborhood. This is equally true for family housing projects and housing for the elderly. In the nine cities outside Chicago, it is more common to find facilities for the elderly that are predominately white located in neighborhoods that have a higher percent of black residents, and family projects that are predominately black in neighborhoods with a higher percent of white residents.

All subsidized housing tends to be located in poor to very poor census tracts. The federal Department of Housing and Urban Development defines very low income as less than 50 percent of median income and low income as less than 80 percent of median income. The State of Illinois median income in 1980 was compared with census tract median income in 1980, for tracts in which subsidized housing facilities are located. In Chicago, 78 percent of all subsidized housing is located in tracts where the median income is below 50 percent of the state median income, and 91 percent of the projects are located in tracts where median income is less than 80 percent of state median income. In the other nine cities 36 percent of housing facilities are located in tracts with median incomes of less than 50 percent of the state median income and 69 percent are located in tracts with median income less than 80 percent of the state median income.

Factors that Inhibit Elderly Moves to Better and Safer Housing

Based on these findings we might hypothesize that more of the elderly currently residing in family, as opposed to elderly, subsidized housing would take advantage of a rent voucher, or any new subsidy alternative that would allow them to leave family housing projects. We might also hypothesize that black elderly would dominate the requests for new subsidized housing opportunities since black elderly are far more likely to live in family subsidized housing. Finally, we might hypothesize that proportionally more elderly living in all types of subsidized housing in Chicago as opposed to elderly living in the other nine cities, would avail themselves of new subsidy opportunities because subsidized housing in Chicago is more likely to be located in neighborhoods with very low median income that tends to correlate with high crime rates and poor housing and community upkeep.

However, there are countervailing factors that can influence elderly residents to stay in their current housing despite strong and obvious advantages to move. One is simple inertia. Inertia can bind anyone to a given place, but it seems to be particularly strong among the elderly who have lived in a facility and location for a long time, have learned to live with its many drawbacks, and who see too many unknowns and too much "starting over" if they move late in life. Perhaps more important ties to current housing, and a contributing factor to general inertia, are extended family and friendship ties, both within a family housing project and in the surrounding neighborhood. A third factor is extended family dependencies. Family dependencies can work to prevent elderly from moving in two ways: the elderly may be very dependent on their family for support with daily living, and just as possible, the family can be dependent on the grandparents for babysitting, temporary/emergency housing, social counseling and even financial help. There is strong evidence, especially in low income black families, that the elderly retain a major role in raising their grandchildren. This is far more feasible when residing in a family housing project.

We know of no facility exclusively for the elderly that would tolerate even regular babysitting, let alone episodic periods where elderly residents serve as parental substitutes. Finally, elderly may make strong ties to various public support service networks and personnel (social workers, home help, transportation services, and so on) that they have come to depend upon for assistance.

Potential Demand for a Rent Voucher

Turning now to the questions of how many of the elderly would choose to move under different circumstances. First, we asked the representative of family housing if the elderly would move to an age-segregated facility for the elderly if one were available in the same neighborhood at the same cost as they are now paying. The response rates, separating black and white residents, and Chicago and the other nine cities for this and all the remaining questions, are presented in Table 1. We then asked the representatives of both elderly and family housing how many of the elderly would move if offered safer, barrier-free, and better-serviced housing in the same general neighborhood and at the same cost as they are now paying. Third, we asked how many of the elderly would move if better housing, with the same amenities described in the previous question, were only available in a suburban location, 20 minutes away by car or public transit. Finally, we asked how many residents would move if they were given a rent voucher which would allow them to seek out and rent any apartment at about the same cost as they pay now. For three of the questions, the move from family to housing exclusively for the elderly, from current location to suburban location, and from subsidized housing to the private market, the key informants were asked to explain why they felt a certain number of residents would or would not move.

The major reasons offered for moving or staying are similar no matter what type of move is proposed and change only slightly when the elderly, as represented by the key informant, are black or white, or living in family or subsidized housing. Table 2 represents a composite of all the different answers offered by the key informants for why elderly residents would stay or leave. The primary reason for staying is that residents are happy and like the facility. While this is probably true, there can be some bias on the part of site managers and social service coordinators who want to believe they are providing an excellent service and environment for their tenants. Included under this answer are responses that elderly like the facility because: their family or friends live there, they have a nice/modern apartment, the facility provides good social amenities and support services, they like the location, and they like the management. The second most common reason for staying covers two types of elderly, both of which stay because of "inertia." One group is not in a bad environment for their needs but are not necessarily very happy living there. They stay because they are "used to" the facility and have

no ambition to leave. In the other case the key informant, usually the manager of a family facility, feels the elderly residents should move for their own safety or support needs. In several cases the key informant said they had found a better alternative but could not get the resident to move. Many of the elderly are so afraid of the unknowns involved in the move that they are willing to live with the problems in their current housing. We did not record multiple reasons for staying, but feel many of the "inertia" answers involving black elderly in family subsidized housing include an "inability" to leave because the elderly resident has dependent friends or family they cannot leave. The third most common reason offered for staying is that the elderly specifically desire the age-segregated or -integrated living, depending on whether they live in an elderly or family complex. The final reason offered for staying is family who benefit from the elderly resident living in family housing in that location. Because of the nature of this extended family relation, many of the key informants are not likely to know how often this occurs; and because of the nature of the question, this answer did not surface or get recorded as often as we think it actually applies.

Clearly the major impetus for the elderly to leave their current subsidized housing is to find a safer more secure environment. However, among the elderly residing in family housing projects, there is also a desire for more supportive environments, and age-segregated living. Included under more supportive environments are barrier-free design (free of stairs, and more convenient kitchen and bathroom designs, and so on). Included under both "more supportive" and "age-segregated" environments are better social and support services, having more in common with your neighbors, and a more sympathetic and supportive management.

Table 1

The Percent of Elderly Who Would Move from Current Subsidized Housing Given Different Subsidy Choices and Housing Amenities

	Subsidy Programs in Chicago				Subsidy Programs in Nine Other Illinois Cities			
	Elderly Housing		Family Housing		Elderly Housing		Family Housing	
	Per-cent Black	Per-cent White	Per-cent Black	Per-cent White	Per-cent Black	Per-cent White	Per-cent Black	Per-cent White
Would move to an elderly segregated facility	N.A.	N.A.	33.2	12.3	N.A.	N.A.	31.8	27.5
Would move to a better/safer facility	19.7	20.2	38.4	29.0	7.2	9.8	27.5	23.6
Would move to a suburban location	8.9	7.0	20.2	6.3	5.8	6.9	13.3	8.1
Would move given a rent voucher	20.1	24.6	30.9	32.8	11.3	6.8	25.6	21.7

Source: 1983 Key Informant Survey. The percentages shown represent the number of elderly the key informants felt would move divided by the total number of elderly represented by the key informants in that category.

N.A.: Question not applicable to this category of housing.

Table 2

Composite Reasons Offered by Key Informants for Why Elderly Would Stay or Leave their Current Subsidized Housing

Reasons for Staying:	Currently Living in Elderly Housing		Currently Living in Family Housing	
	Black	White	Black	White
Like the facility and location	60.3%	64.7%	42.7%	60.0%
Inertia	36.8%	33.4%	40.3%	16.0%
Like age-integrated living	---	---	8.5%	20.0%
Like age-segregated living	2.9%	2.9%	---	---
Can't leave family dependents	---	---	8.5%	4.0%
Total	100.0%	100.0%	100.0%	100.0%
Reasons for Leaving:				
Want a safer more secure facility	100.0%	85.7%	46.7%	53.3%
Want more supportive environment	---	14.3%	40.0%	26.7%
Want an age-segregated environment	---	---	15.3%	20.0%
TOTAL	100.0%	100.0%	100.0%	100.0%

Source: 1983 Key Informant Survey

Implications of a Rent Voucher Program

The elderly are a tremendously varied population when it comes to housing needs. The introduction of a rent voucher program as an alternative means of subsidizing housing costs for the elderly would be a welcome and useful addition to existing programs. The availability of a rent voucher program would create useful flexibility in serving the housing needs of some elderly, but would be detrimental to other elderly were it the only subsidy alternative available.

(continued from p. 4)

taxes and transfer payments will really stimulate workers and points out that a decrease in transfer payments serves to decrease the income individuals actually have to spend, thus decreasing consumption and aggregate demand. This, they argue, will result in lower prices, but in lower output and employment as well.

This last point highlights what many consider to be the strongest objection to supply-side economics. Many of the policies are viewed as changing the current distribution of income in favor of the upper income classes at the expense of the lower income classes. Decreasing transfer payments is cited as an example of this, particularly since its damping effect on aggregate demand seems inconsistent with the expansionary effects of the various tax cut proposals. Other supply-side policies are believed to unfairly favor wealthy people as well. Policies that make businesses more profitable are seen as raising the income of wealthier individuals since it is the wealthier classes that own the largest share of firms. Tax cuts to high income individuals are frowned upon in this light, too. Finally, reductions in taxes on interest and

While there are elderly, both poor and moderate income, and both black and white, who could benefit from a rent voucher program, their numbers appear to be relatively small compared to the total number of elderly eligible for housing subsidies. There appear to be more of the elderly who would prefer specific new housing construction programs such as the existing Section 202, Section 8 and even public housing programs. The low percentages of the elderly interested in rent vouchers, suggested by Table 1, are probably not unreasonable. Elderly blacks currently residing in family subsidized housing would probably be the largest group to specify a rent voucher over one of the existing subsidized elderly housing options. This would allow them to stay in age-integrated housing, something they apparently like, and/or need because they have dependent family. The voucher would provide these people with maximum flexibility with regard to location, housing type, and neighborhood environment. Ironically, most of these elderly would be very poor, and want to stay in relatively low income locations, thus making them the least attractive to private landlords.

There may be elderly currently residing in private housing who are eligible for a subsidy and who would avail themselves of a rent voucher even though they would not participate in an existing subsidy program, but many of these elderly are likely to be white and have moderate incomes. These elderly would generate new housing demand to which the private market could respond. However, concentrating on such recipients could be questioned from the standpoint of equity and efficiency in use of welfare dollars, since it would not serve the most needy elderly. So that while this study would recommend introduction of the rent voucher program for the elderly, it also suggests that its limitations, especially as the only subsidy program, be kept firmly in mind.

dividends seem to favor high income individuals since it is these people that have large sums in savings. Because of these objections, there are some people that feel that the entire supply-side school of thought is simply a sophisticated ploy to increase the income of the upper income classes. Some supply-side economists acknowledge these effects of their policies, but assert that in the long run these policies will generate a large enough increase in output to furnish everyone with a larger income.

This article has outlined the fundamentals of supply-side economics. In that connection, we have briefly discussed the recent history of fiscal policy in the United States and the conditions that have given rise to the current supply-side controversy. We have also described some of the ideas underlying supply-side economics along with the policies that have been advocated to place these ideas into action. The merits and demerits of these policies have been reviewed. There are no clear-cut answers on the validity of the supply-side propositions. It is likely that we will eventually conclude that some of these propositions are valid while others should be abandoned.

College Expenses at the University of Illinois at Urbana-Champaign

William R. Bryan and David T. Whitford

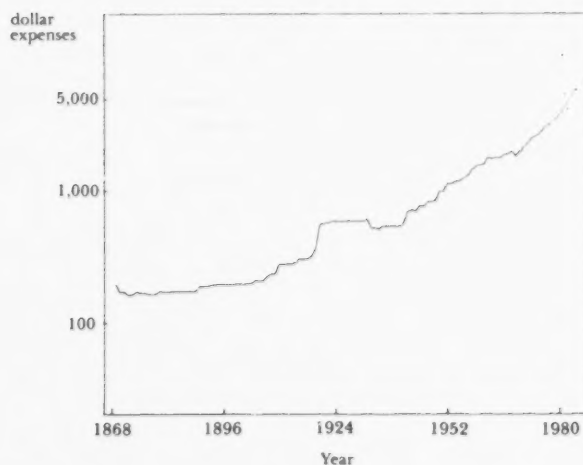
For more than a century there have been intermittent increases in the expenses associated with sending a son or daughter to the University of Illinois. Over the past several decades, out-of-pocket costs have jumped markedly. Adjusted for increases in the general price level, the cost increases since 1868 have been moderate; and since 1964 there has been stability, on balance, in the real out-of-pocket costs. Indeed, as a portion of family income, such costs have actually declined.

Data discussed here are from a study by Dorothy Clark, a former staff member of the Office of Admissions and Records of the University of Illinois at Urbana-Champaign. The out-of-pocket costs include tuition (resident), room and board, and other incidental fees. The data are not completely consistent for the entire 1868-1983 period.

Out-of-Pocket Expenses

Since 1868 there have been persistent increases in out-of-pocket expenses at the University of Illinois at Urbana-Champaign. Such expenses include tuition and room and board, along with other expenses typically associated with attending college. Estimates of these expenses are shown in Chart 1. Annual expenses in 1868 were an estimated \$196. In 1983 these expenses were an estimated \$5,900. The average rate of increase over the past 115 years has been 3 percent.

Chart 1
Total Undergraduate Expenses,
U of I 1868-1983



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Cost increases have occurred in fits and starts. The average increase from 1868 to 1950 was just under 2 percent. Then, from 1950 to 1964 college expenses rose at a 4.2-percent annual rate. Expenses have jumped sharply since 1964, rising at a 6.6-percent rate.

Inflation-Adjusted Expenses

Even in real terms, college expenses have risen over the past century (see Chart 2). On average, real out-of-pocket costs—that is, expenses adjusted for changes in the price level—have risen at just over a 1-percent annual rate. Thus, while nominal expenses double every 23 years (roughly), it takes approximately 57 years for real expenses to double.

Changes in real out-of-pocket expenses have followed a different pattern from nominal expenses. From 1868 to 1952 real expenses rose at a 1.3-percent rate. Then, from 1952 to 1961 cost increases accelerated to a 3.7-percent annual rate. Since 1961, real out-of-pocket expenses have fluctuated widely (see Chart 3), but have changed little on balance.

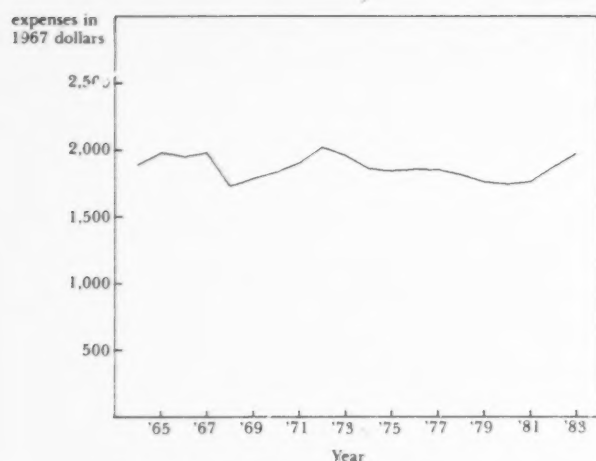
Chart 2
Inflation-Adjusted Total Undergraduate Expenses
U of I, 1868-1983 (in 1967 dollars)



Expenses and Family Income

Data suggest that there has been a decline in the burden of meeting college-related expenses. Out-of-pocket expenses as a portion of median family income drifted downward from 1964 to 1983. In 1964, out-of-pocket expenses at the University of Illinois at Urbana-Champaign averaged 26.7 percent of US median income. In 1983, such expenses averaged 21.4 percent. Since median family income in Illinois is higher than in the nation as a whole, college expenses are a smaller portion of Illinois income than the chart indicates. Even so, because Illinois income

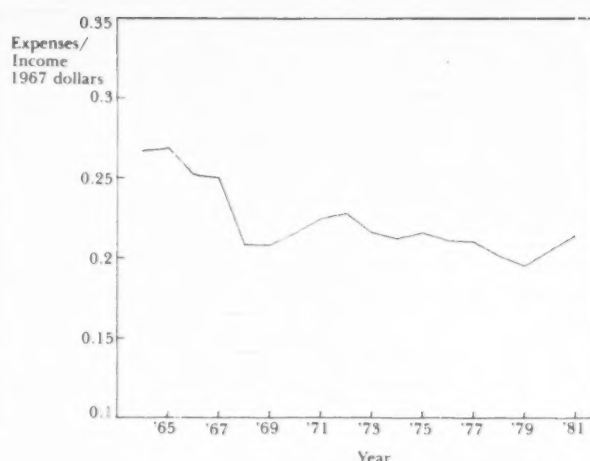
Chart 3

Real Total Undergraduate Expenses
U of I, 1964-1983 (in 1967 dollars)

has grown less rapidly than national income, the decline has been less pronounced than shown in Chart 4.

Out-of-pocket expenses are extremely important to the families who carry the burden of assisting a son or daughter through college. Even so, they are

Chart 4

Expenses Divided by US Median Income per
Family U of I, 1964-1981 (in 1967 dollars)

but a portion of the total costs associated with a college education. First, it is important to recognize that tuition charges fall far short of meeting the costs of providing education services. Second, a major cost of attending college consists of the income foregone by the student.

(continued from p. 5)

assist S&Ls to balance the duration of their assets and liabilities.

While the DIDMCA took a big step forward in modernizing banking laws, certain transitional developments had taken place that still left some institutions at a disadvantage. Specifically, savings and loans were still tied to long-term, fixed-rate mortgages as assets, with short-term, often volatile, liabilities. The allowance of consumer loans and the holding of commercial paper had not eliminated this disparity. A second development was probably caused by the 1980 act. As competition increased in a bidding for funds, certain institutions became insolvent due to the higher cost of operation. Even when nearly all deposits are insured, a more common practice is the assumption of assets and liabilities by another institution. When the liabilities are assumed, depositors lose nothing, whereas an FDIC payment could result in a loss to those depositors whose accounts are above FDIC limits. The law pertaining to these assumptions prohibited out-of-state assumption and in certain cases, called for FLIC payment.

Garn-St Germain Act, 1982

In 1982, Congress passed the Garn-St Germain Act to further the modernization of banking laws. While the main focus of this bill was to allow S&Ls to compete on a more equal basis with other depository institutions, it also included provisions for new accounts and failure assumptions by out of state banks. The act allowed for money market deposit accounts

(MMDA) on 14 December 1982, and Super-NOW accounts 22 days later on 5 January 1983. MMDA's pay any rate of interest as determined by each particular institution, so as to offer competition with money market mutual funds. These accounts were restricted to balances of \$2,500 or more and allowed only a limited number of withdrawals per period. They resemble savings accounts and require only a 3 percent reserve. Super-NOW accounts are similar to MMDA's, but are transaction accounts. That means that a Super-NOW's withdrawal limits are less restrictive and a 12 percent reserve is required. Depository institutions were then able to compete with brokerage houses for money market funds. The changes with respect to S&Ls were more significant than those associated with DIDMCA. Garn-St Germain allowed S&Ls to hold demand deposit accounts, revised the law so as to make their investment in state and local obligations easier, and most important, removed the restriction on commercial loans. The one-quarter percent differential allowed S&Ls over banks on savings accounts was also removed. This action was taken so that S&Ls would be able to match the duration of assets and liabilities better as well as to compete with banks more equally. Finally, the law concerning the assumption of an insolvent bank was revised. A priority list was devised so that under certain conditions an out-of-state bank could assume the assets and liabilities of an insolvent bank. Hence, the door was open for some forms of interstate banking, a door that had previously been closed.

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ILLINOIS BUSINESS INDEXES

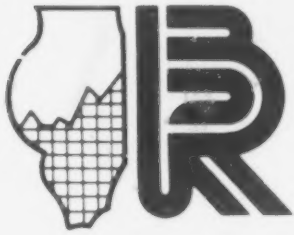
	Percent Change Nov. 1982- Nov. 1983	Nov. 1983	Oct. 1983	Sept. 1983	Aug. 1983	Nov. 1982	Oct. 1982
Coincident indicator (1969=100)	-3.33%	97.5	96.9	96.6	96.2	100.9	100.9
Employment-manufacturing (in thousands)	2.71%	985.4	986.6	989.3	981.7	959.4	970.2
Average weekly hours-manufacturing	3.80%	41.0	41.1	41.4	40.7	39.5	39.2
Weekly earnings-manufacturing	9.35%	\$403.44	\$404.01	\$408.62	\$398.45	\$368.93	\$368.09
Help wanted advertising-Chicago (1969=100) ^a	100.00%	80	80	63	49	40	41
Help wanted advertising-St. Louis (1969=100) ^a	58.06%	49	47	41	43	31	35
Retail Sales (in millions) ^b	-0.65%	\$4,560	\$4,784	\$4,705	\$4,541	\$4,590	\$4,551
Coal production (in thousands)	3.58%	4,922	5,332	5,220	5,593	4,752	5,111
Petroleum products (in thousands) ^c	-4.09%	2,370	2,449	2,459	2,541	2,471	2,554
Vendor performance ^c	43.20%	59.0%	64.0%	60.0%	61.0%	41.2%	44.3%
Prices received by farmers ^d	17.82%	119	120	124	124	101	98
Building permits (in thousands)							
Residential housing units	31.01%	2,070	3,185	2,785	2,969	1,580	2,160
Value of residential housing	51.48%	\$115,893	\$175,651	\$147,134	\$168,043	\$76,509	\$95,415
Value of nonresidential construction							
Industrial buildings	305.41%	\$32,396	\$15,570	\$12,369	\$25,603	\$7,991	\$13,591
Office, banks, and professional buildings	87.74%	\$48,288	\$47,954	\$63,398	\$51,894	\$25,721	\$29,654
Stores and other mercantile buildings	259.46%	\$29,839	\$23,517	\$18,019	\$10,297	\$8,301	\$20,104
Other ^d	-67.14%	\$4,705	\$3,619	\$5,079	\$5,416	\$14,318	\$36,455
Consumer price index (December 1977=100)							
North Central US ^e	2.62%	-	164.6	-	163.7	-	160.4
North Central/population more than 1,250,000 ^e	2.58%	-	167.3	-	166.6	-	163.1
North Central/population 385,000 to 1,250,000 ^e	2.33%	-	162.6	-	162.2	-	158.9
North Central/population 75,000 to 385,000 ^e	3.34%	-	161.1	-	159.6	-	155.9
North Central/population less than 75,000 ^e	1.95%	-	162.1	-	160.7	-	159.0
Chicago (1967=100)	3.26%	303.9	302.3	303.0	301.6	294.3	294.4
St. Louis (1967=100)	3.31%	299.6	-	302.0	-	290.0	-
		1983:II	1983:I	1982:IV	1982:III	1982:II	1982:I
Personal income (in millions) ^{f,g}	4.93%	\$145,179	\$142,115	\$141,560	\$140,832	\$138,355	\$136,518
Per capita personal income ^{f,g}	4.93%	\$12,682	\$12,414	\$12,365	\$12,302	\$12,086	\$11,925

^aThe Conference Board, *Help Wanted Advertising*, November 1983. ^bLatest month projected by BEBR. ^cSeasonally unadjusted beginning in December 1982; percent changes use consistent definition. ^dPercent change between October 1982 and October 1983. ^ePercent change between 1982:II and 1983:II. ^fRecent month is preliminary figure.

Conclusion

The DIDMCA in 1980 and the Garn-St Germain Act in 1982 stand as the most sweeping bank reforms since 1933. The Glass-Steagall Act served to regulate banking during the Depression and thereafter. While minor revisions fine-tuned the law, banking practices changed much more rapidly than the law accompanying them. As is often the case when laws become outmoded, those being regulated by the law found methods of circumvention. In an attempt to gain

more uniform control and to allow more competition between financial institutions, Congress chose to deregulate, or more appropriately, re-regulate the banking industry. The DIDMCA and the Garn-St Germain Act will undoubtedly be followed by a series of fine-tuning bills, just as Glass-Steagall was. Hopefully, as the banking and financial evolution continues, the accompanying laws will change to maintain the equality and competition established by the 1980 and 1982 acts.



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An Annual Forecasting Model for Illinois Taxes

Jane H. Leuthold

Fiscal years 1984 and 1985 are times of great tax uncertainty for the State of Illinois. A temporary increase in the state's individual and corporate income taxes, voted by the legislature retroactive to 1 January 1983 is due to expire on 1 July 1984. This loss in tax revenue will be partially compensated for by a permanent change in the state's sales tax and by economic growth. Some look forward to fiscal year 1985 as a year of modest budget growth in Illinois; others see it as a year of retrenchment. In order to analyze the probable impact of tax changes and of economic growth on the level of tax receipts in the State of Illinois, we developed and estimated an annual model of Illinois tax receipts for the period FY 1970 through FY 1983. The model is used to forecast tax receipts under alternative assumptions of income growth and tax change for fiscal years 1984 and 1985. The results show that Illinois can expect a decline in revenue in fiscal 1985, but that nonrecurring budget obligations will more than offset the decline.

Illinois Tax Structure

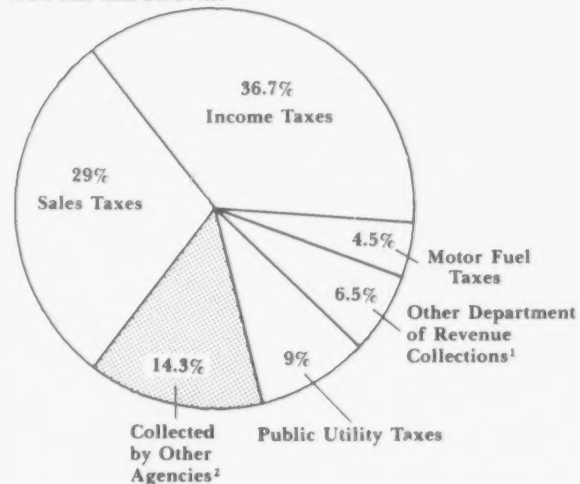
In its 166 years of statehood, Illinois has seen substantial changes in its tax structure. Today, the major categories of taxes are (1) the state income tax, (2) the sales tax, and (3) the public utility taxes. The Chart shows that in 1982, the state collected 36.7 percent of its revenue from the state income tax on individuals, fiduciaries, and corporations. Until recent tax changes, the individual income tax was levied at a rate of 2.5 percent on the adjusted gross income of the taxpayer minus a \$1,000 exemption per taxpayer, spouse, and dependent. The corporate income

tax was levied at a rate of 4 percent on federal taxable income with certain modifications.

The state's sales and use taxes (retailer's occupation taxes, service occupation taxes, and use taxes) account for another 29 percent of state revenue. Between 1969 and 1980, these taxes were levied at

Chart

Where State Taxes Come From



¹ Includes Lotteries, Bingo, Cigarette, Liquor, Real Estate Transfer, Racing Privileges, Hotel, Motor Vehicle Use, and Coin-Operated Amusement Device taxes.

² Includes Motor Vehicle License fees, Drivers License fees, Insurance tax and fees, Inheritance tax, Corporate Franchise tax, and other miscellaneous state license fees and collections.

Shaded area indicates revenues collected by agencies other than the Department of Revenue.

Source: Illinois Department of Revenue, *Revenue 82*, Annual Report, 1982, p. 2.

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Jane Leuthold is a professor of economics at the University of Illinois at Urbana-Champaign. In 1983 she carried out a research plan to develop a tax revenue component for the Illinois Econometric Model maintained by the Bureau of Economic and Business Research, University of Illinois at Urbana-Champaign.

a 4-percent rate on gross retail sales. The sales and use taxes on food and drugs were reduced from 4 percent to 3 percent in 1980 and from 3 percent to 2 percent in 1981. Recent legislation has further modified these taxes.

Nine percent of the state's revenue is from the public utilities tax imposed on companies selling electricity, messages, and natural gas. All three taxes have been imposed at a rate of 5 percent since 1967. Other sources of Illinois tax revenue include excises on motor fuel, liquor, cigarettes, and an inheritance tax, which was recently abandoned.

Within the past year, legislative changes have affected the Illinois tax profile and the revenue potential of Illinois taxes. The following are some of the major changes:

Income Taxes

A 20-percent temporary increase in the individual and corporate taxes was enacted to be retroactive to 1 January 1983. The rate of the individual income tax was increased from 2.5 percent to 3 percent. The rate of the corporate tax also went up from 4 percent to 4.8 percent retroactive to 1 January 1983. Both income taxes expire 1 July 1984. However, homeowners will permanently be able to deduct their property taxes from their taxable income beginning with property taxes assessed in 1982 and paid in 1983.

Sales Taxes

Starting 1 January 1984, the state sales tax on food and medicine has been abolished while the tax on other items, including restaurant meals, will rise from 4 percent to 5 percent.

Inheritance Tax

The inheritance tax is abolished for the heirs of persons dying in or after 1983. The state will continue to collect the estate "pick-up" tax, but its revenues are expected to fall because of liberalizations in the federal estate tax.

The annual tax model, briefly described in the next section, was developed to assess the probable effect of these tax changes and of the natural growth of the economy on Illinois tax receipts in fiscal years 1984 and 1985.

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The Estimation Model

The Illinois tax model is a set of five equations relating tax receipts for the individual and corporate income taxes, the sales tax, the public utilities tax, and all other taxes to Illinois personal income. The tax data, provided by the Illinois Comptroller's Office, were for tax receipts into the general fund. The five-equation log-linear regression model was estimated for the period FY 1970 through FY 1983. Allowance was made in the model for changes in the rate of sales tax and other changes in tax structure that occurred during the estimation period. The results of the estimation were subjected to standard statistical tests for goodness of fit and forecasting ability. The details of the estimation procedure and the estimation results are available from the author upon request.

Forecast Results

The tax revenue forecasts for FY 1984 appear in Table 1. For comparison, forecasts made by the Economic and Fiscal Commission of the State of Illinois for the same period are also included in the table. Our forecasts are based on the expectation that Illinois personal income will increase by 5.22 percent in fiscal year 1984. This projection was provided by the Bureau of Economic and Business Research at the University of Illinois and is based on an econometric model of the Illinois economy. In forecasting the new tax yield, we assumed income tax revenues would increase by 25 percent. Sales tax receipts were calculated at the new rate. As seen in the table, our forecasts are 4.6 percent higher than those of the IEFC. Our model predicts total tax receipts for FY 1984 at \$8,049 million, approximately a 27-percent increase over FY 1983. Of the increase, 12 percent is due to the growth of Illinois personal income and 15 percent to legislated tax changes.

The tax revenue forecasts for FY 1985 are shown in Table 2. Three forecasts are provided, each assuming a different level of income growth. Forecast B takes the Bureau of Economic and Business Research forecast for Illinois income growth of 5.6 percent in FY 1985, while forecasts A and C assume slightly lower and slightly higher rates of income growth (3.6 percent and 7.6 percent, respectively). A comparison with the forecast for FY 1984 shows FY 1985 tax receipts about \$274 million lower than those for FY 1984 under the assumptions of forecast B. Forecast A shows revenues \$452 million lower and forecast C shows revenues \$106 million lower than those of FY 1984. The forecasts presented in Table 2 assume that the income tax increase is not made permanent. If it were, an additional increase of 20 percent or roughly \$698 million in income tax receipts could be expected.

Conclusions

Our research suggests that without a change in the tax law, Illinois tax receipts in FY 1985 will be somewhat less than those of FY 1984. Assuming revenue from other sources such as federal aid remains constant at its projected FY 1984 level of

Table 1

Forecasts of Illinois Tax Revenue for FY 1984 (Millions of Dollars)

State Tax Sources	Economic and Fiscal Commission		Forecasts from the Annual Model	
	Base	New Tax Yield	Base	New Tax Yield
Individual Income	\$2,560	\$637	\$2,722	\$680
Corporate Income	433	114	545	156
Retail Sales	2,456	115	2,642	98
Public Utility	707		676	
Other	673		550	
Total	\$6,829	\$866	\$7,135	\$914
	\$7,695		\$8,049	

Table 2

Forecasts of Illinois Tax Revenue for FY 1985 (Millions of Dollars)

State Tax Sources	A	B	C
Individual Income Tax	\$2,831	\$2,899	\$2,965
Corporate Income Tax	573	590	607
Retail Sales Tax	2,922	2,988	3,047
Public Utility Tax	710	731	751
Other	561	567	573
Total	\$7,597	\$7,775	\$7,943

Note: Forecast A assumes income growth of 3.6 percent in FY 1985, forecast B assumes 5.6 percent income growth, and forecast C assumes 7.6 percent growth.

Table 3

Revenue and Spending Outlook for FY 1985 (Billions of Dollars)

Spending	
FY 1984 Spending (Projected by Bureau of Budget)	\$9.579
- Nonrecurring Obligations	.395
FY 1985 No-Growth Spending	\$9.184
Revenues	
FY 1985 Projected Tax Receipts	\$7.775
+ Other Revenue Sources	1.869
FY 1985 Projected Revenues	\$9.644
Potential Spending Increase in FY 1985	\$0.460

\$1.869 billion, total revenue for the state (under forecast B) would be \$9.644 billion. This can be compared to Budget Director Robert L. Mandeville's forecast for FY 1985 of \$9.263 billion (*Illinois Issues*, September 1983, p. 4). Alternatively, a naive forecast assuming receipts from state sources grow at the rate of income would predict total revenue of \$9.370 billion in FY 1985.

To maintain the same level of services in FY 1985 as we had in FY 1984, a spending level of approximately \$9.184 billion would be required. This was calculated by subtracting one-time FY 1984 expenditures of \$395 million from the Bureau of the Budget's projected spending for FY 1984 of \$9.579 billion. If, as we predict, total tax revenue in FY 1985 is \$9.644 billion, an increase in spending of approx-

imately 5.0 percent in FY 1985 could be supported without changes in the tax law. The projections are summarized in Table 3.

On a less optimistic note, receipts for the first seven months of fiscal year 1984 are running about 4 percent below what would be expected for those months based on patterns of payment in earlier years. This may be because the tax change introduced unaccounted for lags in payments or it may be the result of overprojection of revenues due to a change in the underlying structure of the economy. In either case, it suggests that the projections of this study must be viewed with some caution. Reducing the fiscal year 1985 projection by 4 percent would imply projected FY 1985 revenues of only \$9.333 billion, permitting spending growth of around 2 percent.

Interest Rates: A Form of Inflation?

Folke Dovring

The last few years have placed interest rates in the forefront of economic debate as perhaps never before in recent history. The exceptionally high rates and the ways in which they relate to the variations in the value of money (what is usually understood as inflationary movements) have raised new problems. The time-honored practice of writing long contracts for loans such as mortgages on constant rates of interest has given way to a flurry of attempts at varying the rate of interest as a way of protecting lenders (sometimes also borrowers) from the harm that may follow from large unexpected variations in the rate of inflation. Habitual ways of thinking with regard to capital gains and hedging have been revised. The damage done by inflation includes a measure of uncertainty as to the real yield on invested capital.

In the center of monetary policy is the use that the Federal Reserve System makes of interest rates as a means of keeping inflation down, and the attendant warning that premature transition to lower interest rates could unleash accelerated inflation again.

The unspoken question is: are not high interest rates in themselves a form of inflation? The price of money is the rate of interest, and a high price of money could be read as inflation displaced into the capital markets.

We now have had to get accustomed to thinking in terms of real interest rates, as opposed to the nominal ones. The real rate of interest should be the difference between the nominal rate of interest and the rate of inflation (for high rates, compute instead: $1 + \text{nominal rate} / 1 + \text{rate of inflation} = 1 + \text{real rate}$). Our political leaders sometimes appear to overlook this. The comment is made, for instance, that fortunately we have succeeded in bringing down the rate of inflation, but unfortunately the rates of interest have not fallen as much. Such comments are made in a tone indicating unawareness of the fact that when inflation goes down more than do nominal interest rates, then real interest rates are in fact rising. This has happened repeatedly in recent years.

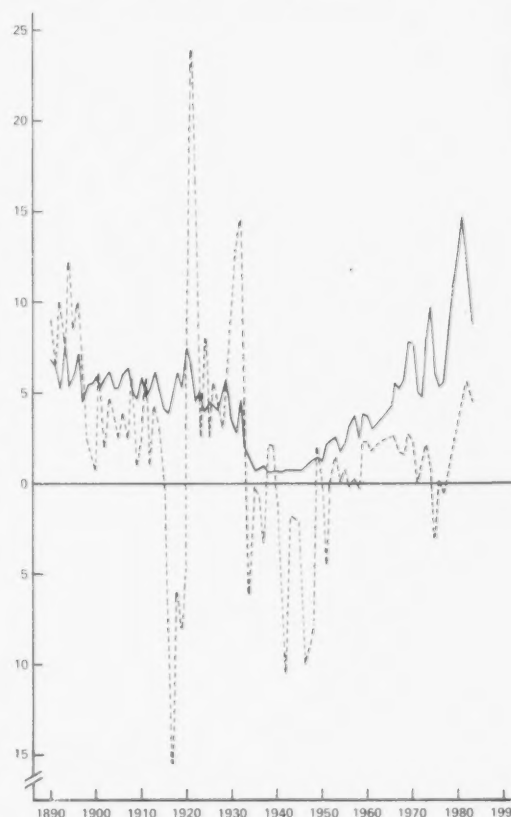
How new this problem is, we can see by analyzing historical data, which generally begin, on a year-to-year basis, in 1890 (*Historical Statistics of the United States*, pp. 224, 1001). In analyzing long-term data, we must apply some standard conventions. In the

following discussion, interest rates will be represented by the rate on "prime commercial paper, 4-6 months," while rate of inflation (and deflation) will mean the implicit price deflator of the national product accounts. These data series are available since 1890. Results are shown in the chart.

Back in the 1890s, nominal interest rates were generally around or slightly over 5 percent. They reacted only moderately to the variations in the price index, which were themselves not very large and generally of short duration, without causing much change in the long-range value of money. Real interest rates, as we understand them now, therefore fluctuated strongly and erratically, reaching very high levels in 1892 and 1894 but without setting in motion

Chart

Interest rates in the United States, yearly data 1890-1973.



Solid line: Nominal rate (Prime Commercial Paper, 4-6 months, or Commercial Paper, 6 months).
Broken line: Real rate of interest. ($1 + \text{nominal rate} \div 1 + \text{GNP implicit price deflator equals } 1 + \text{real rate of interest}$).
Vertical scale: Percent interest.
Horizontal scale: Years.
Sources: 1890-1970, *Historical Statistics*, pp. 224, 1001; 1971-1980, *Business Statistics 1982 A supplement to Survey of Current Business*); 1981-1983, *Survey of Current Business*, December 1983 and January, 1984.

Folke Dovring, a former United Nations official, teaches Land Economics and Economic Development in the University of Illinois Department of Agricultural Economics. His writings on macro economic subjects include a new book, *Riches to Rags: The Political Economy of Social Waste*, forthcoming from Schenkman (Cambridge, MA).

any systematic change in the operation of lending and borrowing. With variations, this continued up to 1915.

The World War I years saw inflation—the GNP deflator doubled from 1915 to 1920. But nominal interest rates did not change much, and the real rates therefore were negative for several years. The deflation episode of 1921–1922 brought nominal interest rates down only to 4 percent and rushed the real rates to double-digit levels. Most of the 1920s resumed the pattern from before 1915, with nominal interest rates somewhat lower than before (4–5 percent) and real rates varying somewhat more (3–6 percent). The GNP deflator fell after 1920, but remained higher than the pre-1915 levels.

Depression again drove real interest rates to double-digit levels but again only for a short time (1931–1932), to be followed by very low rates both nominal and real. Nor did this change with economic recovery. Even then, the GNP deflator never reverted to the levels of the early 1900s.

Wartime inflation from 1941 on was somewhat less striking than 1915–1920; even if the peak caused by the beginning of the Korean “police action” in 1950 is included, the GNP deflator did not double from 1941 (it did so only after the middle of the 1950s). In contrast to the early 1920s, there was no deflation episode in the forties or fifties. Nominal interest rates moved even less than during World War I, they remained below 1 percent for several years, and real interest rates were negative in almost all of the 1940s and in several years before and after as well. Only in the late 1950s did nominal interest rates reach a level of 3–4 percent, and they have been rising ever since, except in 1975–1978, with double-digit values in 1979–1982 and 9–10 percent recently. In the years 1979–1983, nominal interest rates have been higher than ever, while real interest rates were higher than since the Depression. Because of slow inflation, real interest rates remained low (2–3 percent) through the 1960s and most of the 1970s. Only with the onset of the second oil price crisis (1979–1981) did real interest rates begin to join the upward climb of the nominal rates, reaching 5–6 percent in 1982 and 1983, with up to 9 percent in some quarterly data. If the basis were the “prime rate” (now 12 percent), the real rate would be 6–7 percent.

Several striking facts come out of this analysis. Until very recently, nominal interest rates reacted little to inflation or deflation. Both periods of world war have had negative real interest rates, a condition favorable to doing business on borrowed money but contributing to continued inflation. The high peaks of real interest rates, 1892–1894, 1921–1922, and 1931–1932 were not in response to inflation but were instead consequences of deflation; and none of these episodes lasted more than a couple of years. Stability of nominal interest rates does not appear tied to the gold standard either. The current period of high interest rates, both nominal and real, now in its fourth year, is unique for the century, both for its duration and because it is part of the inflationary pattern.

Before commenting on these recent years, we should note that the low interest rates, both nominal and real, that prevailed throughout the entire period from the late 1930s to the late 1970s, were in no way detrimental to the economy of the country. Real national product doubled from 1940 to 1960 and again from 1960 to 1980. Quadrupling in four decades means a compound rate of growth (recessions and all) of $3\frac{1}{2}$ percent per year, which compares favorably with earlier phases in the economic history of the country.

For the last few years we may first note that the rate of inflation was unusually high for some time but is now down to about 4 percent (5.5 percent first quarter, 3.3 percent second quarter, 3.6 percent third quarter and 4.1 percent fourth quarter, 1983) compared to 8.6–9.4 percent 1979–1981, 6 percent 1982.

Next we may note that the recent inflationary wave started in 1979, the year when the second round of oil price increases began, and also that the slowing down of inflation recently is related to some reduction in the price as well as the consumption of oil. The rise in oil prices 1979–1981 had greater impact than the corresponding round 1973–1974 (both meant a doubling of the import price of oil), because the second round coincided with the bulk of deregulation of the prices of domestic oil in the United States, thus the price increases bore down on larger quantities despite reduction in oil imports.

For the coming, and the persistence, of high interest rates, the size of the federal budget deficit is often cited as a primary cause. The deficit, of course, derives from the twin policies of lowering taxes and increasing defense expenditures at the same time. The Secretary of the Treasury, on several occasions, has assured us that the federal deficit is not to blame for the level of interest rates. Others disagree. Common sense seems to indicate that when federal borrowing is very large, this would help keep interest rates higher than they would be without this level of federal borrowing. The deficit feeds on itself because, when the rates of interest are high, the Treasury has to borrow even more in order to meet its obligations of debt service. The high rates of interest on federal borrowing also mean a kind of “negative tax” in favor of bondholders, thus a redistribution of income. The hope that economic recovery would help bring down the deficit by increasing federal tax revenues has so far not been made good. It would take much faster rates of economic growth to accomplish that in the near future.

In the present situation, federal borrowing may not appear to be at the root of the problem of high interest rates as much as it would if economic recovery were to accelerate. The slow rate of recovery that most analysts foresee is said to be desirable in order to continue holding inflation at bay. But by this token, relief of the budget deficit from increased tax receipts is a long way off.

What is not very readily apparent in the present situation is the impact on capital markets that would

(continued on p. 12)

REAL ESTATE DEVELOPMENTS

Real Estate Returns, Inflation, and Taxes

Roger G. Ibbotson and Laurence B. Siegel

Real estate returns in the period from the end of World War II to the present have substantially outrun inflation and have also exceeded returns on many alternative investments. Inflation affects real estate returns, both directly (through the impoundment of higher general price levels in the real estate price level) and indirectly through a variety of tax effects. In this article we attempt to measure these effects.

We sketch out a theoretical framework based on one new equilibrium theory developed with Jeffrey Diermeier. (Roger G. Ibbotson, Jeffrey J. Diemeier, and Laurence B. Siegel, "The Demand for Capital Market Returns: A New Equilibrium Theory," *Financial Analysts Journal*, January/February 1984). We present summaries of yearly returns from 1947 through 1982 on three sectors of real estate—residential, farm, and business—and record the methods used. Finally, we analyze the relationships between the real estate series and inflation.

Tax Characteristics of Real Estate and the Equilibrium Expected Returns

Federal and State income taxes on real estate are very different from those on common stocks. Most real estate is not owned by corporations, but is held by individuals or limited partnerships. Thus, only personal tax rates apply to the return from real estate, while both personal and corporate tax rates apply to the return on common stocks.

The mortgage portion of real estate is likely to be similar to the corporate bond leverage inherent in firms. In both cases, the interest payments are tax deductible—from personal income in the case of real estate and from corporate profits in the case of firms. The profits and capital gains of firms are taxed at the corporate level, and then again at the personal level either as ordinary income or capital gains. In contrast, real estate income and capital gains are only taxed at the personal level.

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Inflation affects firms negatively (in real terms) since firms typically have to pay higher corporate taxes, bondholders have to pay higher income taxes, and stockholders have to pay higher capital gains taxes.

Inflation affects real estate in several ways. Looking at only the real economy and extracting from any tax effects or other effects, we might expect a one-for-one percentage increase in values and rents (income) with the inflation rate. But mortgage interest payments inflate and consequently become more heavily taxed, and equity holders (usually in a higher tax bracket than mortgage holders) get to deduct this interest payment. This alone would cause real estate to garner a tax benefit from inflation. But capital gains, and capital gains taxes, also increase with inflation, causing a negative real effect on real estate. We are addressing the question of which effect predominates—the net tax shelter benefit from inflation or the extra capital gain tax costs from inflation.

One of the principal reasons for studying historical real estate returns is to compare them with other assets in regard to expected return, inflation and tax effects, risks and other asset characteristics, and to generate expectations of future returns. The well-known Capital Asset Pricing Model (CAPM) of Sharpe and Lintner prices assets according to "beta" or economy risk alone. The Arbitrage Pricing Theory (APT), developed by Stephen Ross, posits multiple risk characteristics, and it is useful for pricing stocks. However, it does not account for the nonrisk pricing factors important in real estate. Numerous researchers have treated nonrisk pricing factors, but generally in isolation.

Nonrisk and risk factors are brought together into a pricing mechanism in our New Equilibrium Theory (NET). We regard investors as pursuing returns net of all investor costs, where each investor translates all risks, taxes, the burdens of immarketability and obtaining information, and other factors into costs for which he demands compensation. These costs are heterogeneously (individually) determined, and thus the cost of capital or expected return for an asset is literally the summation of all capital costs at the margin for each investor, including the pure time value of money.

NET theory, while less formally specified than the CAPM and APT equations, is applicable to all assets. For some assets such as real estate, nonrisk characteristics may be more important than risk in their pricing. Some investors buy real estate equity more for its tax attributes than to obtain the payoffs for its risk attributes. The search, transaction, and other costs that are grouped into the category of marketability costs must be paid by real estate investors and are probably compensated by higher before-cost re-

turns. The heterogeneity of real estate parcels makes information costs high, and one may incur information costs about properties not acquired, so that these costs too enter into the investor's demand for returns on real estate investments.

We divide the risk attributes of real estate into economy risk, inflation risk, and other risks specific to individual properties, termed residual risks. This article specifically examines the inflation risk attributes of unleveraged real estate. Real estate also has some of the characteristics of a stock and is likely to include economy risk as a pricing factor. And the mortgage portion of a real estate investment has the inflation risk attributes of a bond. Since most real estate parcels are large relative to investors' wealth, indivisibility causes investors to hold highly undiversified portfolios of real estate, burdening them with residual risk.

Returns on Residential, Farm, and Business Real Estate

We formed continuous indexes of total returns on residential and farm property for 1947-1982. Table 1 displays the summary statistics of the annual returns. Business real estate is defined as office buildings, shopping centers, and industrial property.

Residential property capital appreciation was calculated in all three sources as the annual change in the home purchase component of the Consumer Price Index, not seasonally adjusted. This component represents the price of an unleveraged house and is not affected by mortgage rates. Income returns from real estate were taken from the work of Beryl Sprinkel and Robert Genetski; income returns are net of operating expenses. Total returns equal income plus capital appreciation.

Annual farm capital appreciation (annual change in price per farmland acre) rates were provided by the US Department of Agriculture.

For business real estate over the period 1960-1974, we used the Building Cost Index in Engineering News Record (published by McGraw-Hill) for capital appreciation, and adjusted for depreciation by subtracting 2.5 percentage points from each raw annual return. Net operating income returns are estimated as 3.5 percent per year. Over the period 1975-1982,

we had access to property-by-property appraisal and net operating income data for a commingled real estate fund managed by The First National Bank of Chicago trust department. Unlike some funds with varying leverage characteristics, this fund contains only fully owned, unleveraged real estate. The number of properties ranged from a few in the first years to more than 50 in 1982. We formed equally weighted regional portfolios of the properties—one each for northern, western, and southern states. We then weighted the regional portfolios by each region's 1980 population, to arrive at the US business real estate portfolio total return. Our northern region consists of the US Bureau of the Census' Northeastern and North Central States.

Farmland had by far the highest returns over 1947-1982, with a compound annual return of 11.1 percent. Residential real estate had a compound annual return of 7.4 percent over the same period, but with approximately half the risk (as measured by the standard deviation). The correlation coefficients between the several real estate sectors and the stock market are near zero, affording a diversification opportunity.

Over 1960-1982, farmland has the highest return and risk, while business and residential real estate have lower returns and risks and are roughly equal to each other. Business and residential real estate have a correlation of roughly 0.7 with each other, while each of these sectors has a low correlation, approximately 0.3, with farmland.

As one might expect, business real estate contains some economy risk and thus has the highest correlation with the stock market (9.11) of the three real estate sectors. During the stock market declines of 1969-1970 and 1973-1974, business real estate lagged behind residences; in good stock market years, business real estate generally ran ahead of or even with residential property.

The standard deviations presented here are conservative estimates of risk, primarily due to appraisal smoothing and marketability considerations. These factors probably affect all three real estate indexes to about the same degree so that the standard deviations may be comparable within the sectors of the real

Table 1

Total Returns on Real Estate and Inflation 1947-1982 (Summary Statistics)

Period	Residential Real Estate	Farm Real Estate	Business Real Estate	Inflation Rates
1947-1982:				
Compound Return	7.43%	11.08%	—	4.29%
Arithmetic Mean	7.50	11.32	—	4.36
Standard Deviation	3.89	7.21	—	3.72
1960-1982:				
Compound Return	8.61%	11.82%	8.04%	5.36%
Arithmetic Mean	8.68	2.11	8.10	5.42
Standard Deviation	3.99	7.79	3.78	3.73

Sources: Roger G. Ibbotson and Carol I. Fall, "The US Market Wealth Portfolio," *Journal of Portfolio Management*, Fall 1979; Roger G. Ibbotson and Laurence B. Siegel, "The World Market Wealth Portfolio," *Journal of Portfolio Management*, Winter 1983; and Roger G. Ibbotson and Gary P. Brinson, *World Wealth: The History and Economics of Capital Markets*, in progress.

estate market. Because of unresolved issues in measuring real estate returns, one should be careful in comparing these real estate standard deviations with those of other assets such as stocks, bonds, and cash.

Regressions on Inflation

Using regression analysis, we related the real estate sector return series to the inflation rate (as measured by the Consumer Price Index for All Urban Consumers, not seasonally adjusted) over the holding periods for which we had data. The results are presented in Table 2. All three sectors had significantly positive "alphas"; that is, they had positive returns after accounting for inflation. The relationship between real estate returns and inflation was also significantly positive (shown by the R-squares) for the three sectors. If inflation has no real effect on real estate, we would expect the beta coefficient of real estate returns on inflation to be one. If the net impact of all of the inflation effects were to lower the effective tax rate on real estate, (that is, if inflation makes real estate a better tax shelter), we might expect a beta of greater than one. On the other hand, if the extra capital gains caused by inflation were to lead to higher taxes on net, we would expect a beta of less than one. The sum of these three effects gives us our actual real estate beta on inflation.

The results show that the beta is slightly less than one in all three sectors—farms, residential, and business real estate. The differences between the betas

and one, however, are not clearly significant. In farms, the beta is very near one (0.98), while in residential real estate, the beta is only slightly more than one standard below one. Only in business real estate is the beta marginally significant, with the beta two standard errors below one.

The coefficients measured are for unleveraged real estate. Breaking the return into a mortgage and an equity part would likely affect the results. The mortgage portion resembles a bond of fairly long duration and thus has negative returns when inflation rates increase; this implies a negative inflation beta for real estate mortgages. Moreover, mortgages generally comprise more than half of real estate value, and may range upwards of 80 percent in some sectors. Leveraged real estate equity is thus likely to have a beta substantially greater than one when regressed on inflation.

Conclusion

Real estate returns are related to inflation rates, with much of a given year's inflation impounded in real estate prices. The tax effects of inflation do not produce a clearly identifiable effect on unleveraged real estate returns, probably due to the offsetting of the tax shelter effect and the tax on capital gains. Further research may uncover hidden relationships by examining real estate equity and debt separately, rather than together as we have done here.

Table 2

Regression Results: Real Estate Sectors on Inflation

Dependent Variable	Independent Variable	Alpha (%)	Standard Error of Alpha	Beta	Standard Error of Beta	Unadjusted R-Square
Residential Real Estate (1947-1982)	Inflation	3.81	0.60	0.85	0.11	0.66
Farms (1947-1982)	Inflation	7.05	1.64	0.98	0.29	0.26
Business Real Estate (1960-1982)	Inflation	4.52	1.11	0.66	0.17	0.42

Deregulation: The Airline Experience

Carolyn Woj

Deregulation of the airline industry began in 1978 with the passage of the Air Transport Deregulation Act. Today some are questioning the wisdom of deregulation. Major airlines have been forced to file for bankruptcy in the newly competitive environment, and labor unions are lobbying for a return to regulation of the industry. This article examines the regulatory and deregulatory experience in the airline industry.

The economic rationale for regulation of the airline industry was to guard against excessive competition. In 1936, the Air Transport Association was formed by the airlines and worked with the government to establish regulation. The primary goals of regulation were to insure safe air travel and build an air transport network to serve defense, postal, and public transportation needs. The Civil Aeronautics

Act was passed in 1938 establishing the Civil Aeronautics Board (CAB) to administer the act. The chief tools used by the CAB were control of entry and exit of airlines serving various routes, setting fares, and granting subsidy payments designed to promote air service to smaller communities. It is important to note, however, that the CAB did not have control over all airlines: Intrastate airlines were not subject to the CAB's rules.

The effects of regulation on the airline industry were numerous. Since fares were regulated, the airlines engaged in nonprice (or service) competition. For example, the airlines competed in the number and timing of flights. The end result of this type of excessive nonprice competition was that airlines flew at excess capacity and earned low profits. The CAB did not control the frequency of flights, so that even

though rates were set relatively high the agency could not guarantee adequate profits for the firms.

Another effect of airline regulation was that organized labor was able to obtain higher wages than would otherwise have been the case. Since entry into the airline industry was restricted and fares controlled, employees did not fear loss of jobs caused by competing airlines offering lower fares financed by lower labor cost. Between 1958 and 1974 the Air Transport Association estimated that an average hourly wage for airline employees, excluding pilots and management, increased 166 percent. This increase was more than 50 percent greater than the wage increases in all other industries. Higher wages were not necessarily due to special skills. A 1980 CAB report found that typists working in the airline industry were paid 41 percent more than the national average for typists.

The third result of regulation was the large discrepancy in fares charged by intrastate and interstate carriers on the same routes. The intrastate carriers were not regulated by the CAB and could choose their own fares and level of service. Studies estimated that the fares charged by interstate carriers were 47 to 89 percent higher than those charged by unregulated intrastate carriers.

Since rates under CAB regulation were relatively high, many firms sought to enter the interstate market. Between 1938 and 1965, 150 applications for certification were received by the CAB. All were denied. Restriction of entry was complete. In fact, between 1938 and 1979 the number of trunk carriers decreased from 24 to 11. In this same period revenues of the airline industry grew 300-fold.

Questions regarding the regulatory regime intensified in the mid-1970s. The 1975 Economic Report of the President states that "Regulation has served primarily to bring about a nonoptimal choice of price and quality . . . the result is excess capacity . . . the travelling public has paid higher fares because of this regulation-induced excess capacity."

Proponents of deregulation argued that competition in the airline industry would lead to lower prices without jeopardizing the quality of service. Opponents claimed that deregulation would lead to excessive competition, resulting eventually in oligopoly or monopoly. It was also argued that without regulation, existing airlines would abandon service to smaller communities, shifting service to more profitable routes. The safety of air travel under deregulation was also a major issue.

Let us evaluate some effects deregulation. One concern was that the industry would become an oligopoly or monopoly. As it turns out, a number of new firms have entered the industry and have done quite well. Also, it is not necessarily bad if some airlines do leave the industry. Regulation protects inefficient producers, so we might expect to force some inefficient airlines out of business. A second argument was that unprofitable service to smaller communities would be abandoned. In fact, the CAB

had already allowed the airlines to drop unprofitable routes. The argument was that the airlines would become less safe may be countered in that safety has nothing to do with regulation under the CAB. A separate agency, the Federal Aviation Administration, founded in 1958, is responsible for monitoring and insuring safe air travel.

The outcome of these debates was passage of the Air Transport Deregulation Act of 1978, under restrictions on fares, routing and entry were gradually phased out. Deregulation has brought about major changes in the industry. The move to a more competitive environment has not been without cost. Airline employees and stockholders of some airlines have suffered.

The airlines have faced intense competition in price as well as service. Cost-saving measures were necessary for survival. This has been a painful experience for the older airlines who were locked into union contracts offering high wages. Braniff Airways filed for bankruptcy under Chapter 11 in May 1982. Continental Airlines filed for bankruptcy on September 24. Three days later, it sought to reorganize as a trimmed-down version and hired back one-third of its employees at approximately one-half of their former salaries. Soon after the announcement of Continental's bankruptcy, Eastern Airlines Chairman, Frank Borman, sent a taped message to his employees warning that a similar fate could await them unless they agreed to wage and benefit cuts.

The unions have been opposed to deregulation from the start. As feared, competition has brought reduced salaries. Henry Duffy, President of the Air Pilots Association, stresses the need for re-regulation of the industry, "Let's not kid ourselves; the industry is in shambles." It is interesting that the labor unions, rather than airline management, feel that the industry is on the brink of disaster.

Monte Lazarus, senior vice-president of external affairs for United Airlines, holds that "deregulation has allowed us to operate more efficiently. We're free of many of the artificial restrictions on our operations which existed under regulation and which caused us to burn considerably more fuel with no real economic purpose." The picture for the airline industry is not bleak. Some carriers have thrived in the deregulated environment. United Airlines, American, and Northwest are three carriers doing well in the competitive atmosphere. AMR Corp., parent of American Airlines, reported a five-fold increase in its third-quarter earnings. Earnings went from \$17.8 million (45 cents a share) in 1982 to \$100.7 million (\$2.05 a share) in the third quarter of 1983.

Fourteen new nonunion jet operators have also entered the market since 1978. People Express is one such airline. Their 1983 third-quarter net income increased 64.7 percent, and revenue more than doubled. These low-cost carriers thrive on lower costs. Labor costs as a percentage of total costs in 1982 was 20 percent for People Express, while Continental's and Eastern's figures were 34 percent and 37 percent respectively. Continental paid its pilots an average of

\$77,000 a year, while People Express paid one half that amount.

It is also important to note that the airline industry's financial problems did not begin with deregulation. The industry has always been plagued by ups and downs and has been especially hard hit in times of national recession. By 1975, nine of the carriers that existed in 1938 had gone broke or merged because of financial problems. High fuel costs and national recession are forces that have contributed to financial setbacks in recent years. The air traffic controller's strike was also a destabilizing force. Deregulation is not necessarily the culprit. In fact, some executives believe that deregulation allowed them to deal with these problems more efficiently. In the final analysis, deregulation must be evaluated in terms of its impact on air transportation service. Several years will be required before the picture will have fully formed.

So far, results for Illinois appear promising. A study of service to smaller communities in Illinois indicates that there has been improvement, on balance. Although some airlines abandoned service to a number of communities, the fear that smaller communities would no longer have air service has not been realized. Commuter airlines have filled the service gap. There has been nearly a one-third increase in the number of direct nonstop weekday flights (Table 1), according to a 1973-1983 study of 13 communities. The smaller communities in Illinois examined did not experience a drastic decline in the number of weekday flights. Peoria, Springfield, and Mattoon were the only cities that show a decline. Sterling and Bloomington, on the other hand, posted a 100-percent and 180-percent increase, respectively.

Although the number of weekday flights to the Illinois communities has increased, the number of seats available each weekday has decreased (Table 2). Deregulation allowed airlines to enter any community they chose. Ozark Airlines abandoned service to 9 of

the 13 communities examined. However, smaller airlines moved in to fill the service gap left by Ozark. Britt started service to seven of the nine communities abandoned by Ozark and three other communities in our sample. Seven other airlines also began serving some of the communities during this period. Although the number of weekday flights has increased, the new companies operate smaller aircraft. The increase in flights could not compensate for the smaller number of seats on each flight, and the number of available seats each weekday has declined as a result.

The decrease in seats is not necessarily bad. Under the regulatory regime, airlines were restricted in their ability to compete through price. They competed in the number and timing of flights. Many planes flew at excess capacity. The passenger load factor of the major carriers was 51.4 percent in 1973 and 61.8 percent in 1983. While the number of seats has declined, this is not a problem. We did, however, experience a trade-off between increased frequency of flights and the luxury of travelling in larger planes that can fly at greater speeds and travel above the weather.

Several points emerge from an examination of fares on various routes between 1973 and 1983 (Table 3). There were very few excursion plans in 1973, savings were less than in 1983. With deregulation, more airlines have relied heavily on price competition. A wide variety of discount fares has emerged. On average, while regular fares have increased, the lowest priced fares have actually declined. By contrast, the price of commercial jet fuel increased 763 percent during this same period. Given the rapid increase in fuel costs, the increase in regular coach fares is less drastic and the decrease in discount fares is impressive. Most of today's consumers do not pay the regular coach fare. Instead, they take advantage of the wider availability of excursion fares, and thus, pay a lower price for air service. They also have greater freedom

Table 1
Direct Non-Stop Weekday Flights to Selected Illinois Cities

To	1973	1983	Change 1973-1983	
			Number	Percent
Champaign-Urbana	22	26	4	18.2
Peoria	28	18	-10	-35.7
Springfield	30	24	-6	-20.0
Decatur	10	16	6	60.0
Rockford	6	7	1	16.7
Bloomington-Normal	5	14	9	180.0
Moline/Rock Island/Davenport	32	62	30	93.8
Quincy	11	18	7	63.6
Marion/Herrin	6	9	3	50.0
Mattoon/Charleston	5	4	-1	-20.0
Mt. Vernon	4	6	2	50.0
Sterling/Rock Falls	4	8	4	100.0
Galesburg	4	7	3	75.0
Total	167	219	52	31.1

Source: Official Airline Guide, 1 Dec. 1973, 1 July 1983.

Table 2

Number of Airline Seats Available each Weekday on Direct Non-Stop Flights to Selected Illinois Cities

To	1973	1983	Change 1973-1983	
			Number	Percent
Champaign-Urbana	1,330	1,251	-79	-5.9
Peoria	2,097	1,449	-648	-30.9
Springfield	1,544	1,305	-239	-15.5
Decatur	729	504	-225	-30.9
Rockford	206	216	10	4.9
Bloomington-Normal	220	374	154	70.0
Moline/Rock Island/Davenport	2,272	2,614	342	15.1
Quincy	354	306	-48	-13.6
Marion/Herrin	264	139	-125	-47.3
Mattoon/Charleston	220	76	-144	-65.5
Mt. Vernon	176	90	-86	-48.9
Sterling/Rock Falls	176	120	-56	-31.8
Galesburg	176	109	-67	-38.1
Total	9,764	8,553	-1,211	-12.4

Source: Official Airline Guide 1 Dec. 1973, 1 July 1983.

in choosing a combination of service and price. Nationwide studies confirm these results. Adjusted for inflation, a 1974 coast-to-coast, round-trip ticket costing \$360 in 1973 would cost \$1,020 today. The real minimum cost of a coast-to-coast, round-trip ticket is now less than 40 percent of its 1974 level. Deregulation of the airline industry has benefited a majority of consumers.

These benefits however, have not been without cost. Labor, previously the beneficiary of regulation, has been hard hit by the move to a competitive airline industry. There have been bankruptcies of major airlines. In any transition to deregulation some groups suffer. From a public policy perspective, it is difficult to balance the promotion of the public interest with the interest of those made worse off as a result of deregulation.

Table 3

Fare Information¹

Flight Route	1973 Fares ²		1983 Fares		Percent Change	
	Regular	Excursion	Regular	Excursion	Reg-Fare	Low Fare
Champaign to Chicago	34	-	49	33	44	-3
Champaign to St. Louis	35	-	51	37 ³	46	6
Champaign to N.Y., N.Y.	102	-	138	84 ³	35	-18
Champaign to Los Angeles	202	181 ³	93 ³	-	-54	-49
Champaign to Cleveland	83	-	87	67 ³	5	-19
Peoria to Chicago	34	-	37	33 ³	9	-3
Peoria to St. Louis	35	-	50	-	43	-
Peoria to N.Y., N.Y.	102	-	191	117 ³	87	15
Peoria to Los Angeles	202	181 ³	155	134 ³	-23	-26
Peoria to Cleveland	83	-	114	84 ³	37	1
Mattoon to Chicago	41	-	54	40 ³	32	-2
Mattoon to St. Louis	35	-	40	-	14	-
Mattoon to N.Y., N.Y.	130	107 ³	201	124 ³	55	16
Mattoon to Los Angeles	202	181 ³	172	141 ³	-15	22
Mattoon to Cleveland	91	-	131	91 ³	44	0
TOTAL	1411	1325 ³	1563	1168 ³	11	-12

Notes: 1. Restrictions on Advance notice, availability, and duration of trip apply on these fares. 2. All fares quoted are round trip and are deflated using the Chicago, IL.—Northwest Indiana Consumer Price Index U series all item category. (1967=100). 3. 1983 fares are based on quotes from area travel agents as of July 15, 1983. 1973 fares are from the December 1, 1973 Official Airline Guide. 4. Figure represents the total of lowest fares (either excursion or regular).



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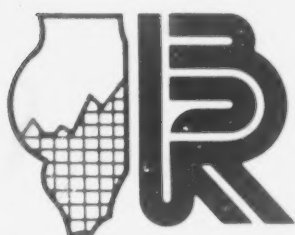
follow if economic recovery also led to stepped-up rates of investment in the economy. This has not happened so far. Investment in 1983 was lower than in 1982, which was lower than in 1981 and 1979. Anticipations for industrial investment in 1984 are also lower than investment in the pre-recession years, on a per capita basis. But if industry really were to enter the capital markets in a big way, this would mean stepped-up competition with federal borrowing and could not but bring the trend of interest rates back up again. To this contributes the increasing capital intensity of some critical sectors, notably en-

ergy and defense. Defense outlays already contribute to the situation on the capital markets, as well as to economic recovery such as it is. If other capital-intensive activities, such as the energy sector, were to begin expanding again, this would, among other things, bring renewed upward pressure on interest rates. The oil and gas drilling boom of 1980-1981 had its effects in this direction, and any resumption of it would be inflationary in both senses of the word: both the conventional one, of raising the prices of goods and services, and the so-far unrecognized counterpart in raising the price of money.

ILLINOIS BUSINESS INDEXES

	Percent Change Jan 1983 Jan. 1984	Jan. 1984	Dec. 1983	Nov. 1983	Oct. 1983	Jan. 1983	Dec. 1983
Coincident indicator (1969=100)	4.17	102.47	101.91	101.91	101.59	98.37	101.23
Employment-manufacturing (in thousands)	3.00	968.1	969.9	985.4	986.6	939.9	949.5
Average weekly hours-manufacturing	4.06	41.0	41.8	41	41.1	39.4	39.8
Weekly earnings-manufacturing	9.35	\$407.13	\$417.16	\$403.44	\$404.01	\$372.33	\$376.91
Help wanted advertising-Chicago (1969=100) ^a	107.69	81	89	80	80	29	45
Help wanted advertising-St. Louis (1969=100) ^a	48.65	55	50	49	47	37	33
Retail Sales (in millions) ^b	7.88	\$4,367	\$5,755	\$4,919	\$4,784	\$4,048	\$5,569
Coal production (in thousands)	6.46	5,523	4,485	4,922	5,532	5,188	4,287
Petroleum products (in thousands) ^c	0.00	2,400	2,235	2,480	2,449	2,400	2,416
Vendor performance	53.66	63.0%	67.0%	59.0%	64.0%	41.0%	38.0%
Building permits (in thousands)							
Residential housing units	32.91	0.933	1.990	2.070	3.185	.702	1.700
Value of residential housing	39.87	\$50,662	\$103,015	\$115,893	\$175,651	\$36,222	\$66,778
Value of nonresidential construction							
Industrial buildings	-46.97	\$4,579	\$10,027	\$32,396	\$15,570	\$8,634	\$5,093
Office, banks, and professional buildings	22.69	\$20,269	\$41,729	\$48,288	\$47,954	\$16,520	\$33,784
Stores and other mercantile buildings	139.34	\$9,916	\$10,571	\$29,839	\$23,517	\$4,143	\$5,954
Other	-97.64	\$1,230	\$9,209	\$4,705	\$3,619	\$52,053	\$53,789
Consumer price index (December 1977=100)							
North Central US ^d	3.38	-	165.1	-	164.6	-	159.7
North Central/population more than 1,250,000 ^e	3.27	-	167.6	-	167.3	-	162.0
North Central/population 385,000 to 1,250,000 ^e	2.70	-	163.6	-	162.6	-	159.3
North Central/population 75,000 to 385,000 ^e	3.14	-	161.1	-	161.1	-	156.2
North Central/population less than 75,000 ^e	3.38	-	162.1	-	162.1	-	156.8
Chicago (1967=100)	3.81	305.2	303.9	303.9	302.3	294.0	293.1
St. Louis (1967=100)	2.92	299.6	-	299.6	-	291.1	-
		1983:II ^f	1983:II	1983:I	1982:IV	1982:III	1982:II
Personal income (in millions) ^{d,e}	4.73	\$147,492	\$145,179	\$142,115	\$141,560	\$140,832	\$138,355
Per capita personal income ^{d,e}	4.73	\$12,884	\$12,682	\$12,414	\$12,365	\$12,302	\$12,086

^aThe Conference Board, *Help Wanted Advertising*, January 1984. ^bLatest month projected by BEBR. ^cPercent change between December 1982 and December 1983. ^dPercent change between 1982:III and 1983:III. ^eRecent month is preliminary figure.



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The Hospice: Alternative Care for the Dying

Carolyn Woj

Each year approximately two million deaths occur in the US. One-fifth of these deaths are caused by cancer, the second leading cause of death. The experience of dying from a terminal illness can be made worse by an indifferent and isolated hospital setting and be an immense drain on a family's savings. Dying is expensive. The average cost of conventional health care for a dying cancer patient in the last six months of life is approximately \$20,000.00. Since hospices focus on allowing the individual to die at home, they substantially reduce health care costs. This article provides a general introduction to the hospice concept of care.

What is a Hospice?

A hospice program is a form of health care for the terminally ill and their families that addresses the emotional and physical problems of the patient and places primary emphasis on the dignity of human life and death. A hospice is not necessarily a specific facility or institution, but rather a concept of care. Hospice Volunteers of Du Page County describe the hospice as "...a concept of care helping people to live fully until they die." Today there are a number of different types of hospice programs in existence throughout the country attempting to fulfill the needs of the terminally ill in their communities. There are free-standing hospice programs and programs linked to existing hospitals. Some hospices offer only home-based services, while others provide both in-patient

and home-based services. Hospices also differ in their use of volunteers, with some hospices staffed primarily by volunteers and others staffed by a greater proportion of paid personnel. Whatever type of services are offered, hospice programs are united in their dedication to improving the quality of life of the terminally ill. The hospice approach differs from the technology-intensive, curative approach of Western medicine in that it stresses palliative care and social support services.

Basic Characteristics of a Full-Care Hospice Program¹

- Autonomous;
- Centrally administered;
- A program of coordinated out- and in-patient services, primarily concerned with home care, with back-up inpatient services when home care is not feasible.
- Primary Unit of Care — Patient and Family: Total patient care includes dealing with family and other significant patient relationships.
- Symptom Control:
Physical: pain, nausea, vomiting and other symptoms are controlled as effectively as medically possible;
Emotional: behavioral sciences are important in helping patient and family cope with emotional stress accompanying impending death;
Spiritual: attention to human spiritual concerns is equally as important as pain care and is integral to a hospice program.
- Physician-Directed Interdisciplinary Care: All health care is provided under the direction of a qualified physician;

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The interdisciplinary areas include: social work, physical, occupational and speech therapy, pastoral care, and a wide variety of consultant services (e.g., psychiatric, radiologic, pediatric, oncologic).

- **Trained Volunteers:**

Volunteers are specially selected and extensively trained; they augment staff services and are not engaged in lieu of staff;

Volunteers provide vital services other than clinical (e.g., transportation, companionship, recreational, and other services).

- **Services Available on CALL:**

Hospice services are available 7 days per week, 24-hours;

Hospice nursing staff bear primary responsibility and call on other program resources as necessary.

- **Staff Support and Communication:**

Opportunities for staff to discuss their concerns — either one-to-one, or in a group, on a structured or unstructured basis — are imperative;

Channels for staff discussion, support and mutual evaluation are established.

- **Bereavement Follow-Up:**

Hospice services are extended to the family during the period of bereavement;

Extent and length of bereavement care is based on factors prior to and following death of patient.

- **Hospice Services Based on Need:**

Hospice services are based on need rather than ability to pay.

History of the Hospice Movement

The term "hospice" goes back to medieval times and refers to a place of shelter for people on long and difficult journeys. Medieval hospices were hospitable resting places offering refreshment and fellowship to sick and weary travellers; they were in operation throughout Europe in major towns and cities, at monasteries in wilderness areas and, in particular, at mountain passes and river crossings that

presented the greatest hazard to travelers on the way to the Holy Land. The exact beginnings of the modern hospice are difficult to trace. Perhaps Saint Christopher's Hospice in London marked the beginning of the modern hospice movement. Founded in 1967, it has served as a model for the development of hospice care in the United States. However, as early as 1842 a hospice was established in Lyon, France by Catholic widows to aid poor women who had incurable cancer.

The hospice is a relatively new phenomenon in the United States. The first full care hospice program here was established in 1974 and is now known as the Connecticut Hospice. Since 1974 the development of hospices in the United States has proceeded at a rapid pace. According to a 1982 article in the Hastings Center Report, the number of operating hospices in the United States was 59 in 1978 and 440 in 1981. The National Hospice Organization (NHO) was founded in May 1978. The latest estimate by the NHO places the number of hospices currently existing or in various stages of development at 1,300.

The first hospice established in Illinois was Saint Barnabas' Hospice, now known as Hospice Volunteers of Du Page. This volunteer hospice program began operation in 1974 and provides home-based services. The Illinois State Hospice Organization was founded in March 1981 to foster quality hospice programs, promote the hospice concept of care for patients and their families, to address the issues of licensure and reimbursement, standards and accreditation, and to provide public information and education relating to the hospice concept of care. As of June 1983 the organization had 63 members; thirty-seven members were organized hospice units, and seven members were hospices in the development stages; the rest were agencies or individuals interested in the hospice concept. In January 1984 there were already 59 planned or organized hospices listed in the Illinois State Hospice Organization's Membership Directory. The majority (30) offered in-patient and home-based services. Twenty-four offered only home-based services, and five provided solely in-patient care.

Cost of Hospice Care

One of the ways in which the modern hospice differs from traditional health care for the terminally ill is in the costs. The cost-effectiveness of hospice care versus traditional health care has been documented in a number of private and government studies. The Warner Lambert Foundation conducted a national study that estimated the cost of one day of hospice care to be 20-25 percent of the daily cost of hospital care. A June 1982 report of the Congressional Budget Office also supported the claim that hospice care, when substituted for traditional health care, resulted in lower costs.

Hospices also differ from traditional health care in regard to funding. These institutions usually seek to provide their services based on need rather than ability to pay. Most hospices charge either a nominal fee for their services (\$0 to \$40 per visit at Northern

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Illinois Hospice Association) or none at all. Up until 1 November 1983, hospice programs were not eligible for complete coverage under Medicare and insurance coverage of hospice services was scarce. Only 17 percent of a sample of insurance companies provided hospice benefits. Hospice funding is obtained from a variety of sources. For example, funds for Hospice Volunteers of Du Page in 1982 came from corporation and foundation grants, local organizations, individual contributions, donations for educational presentations, churches, memorials, fees for training, and special fund-raising events. Other hospices have obtained funds from federal grants, state governments, commercial insurance, and Medicaid and Medicare, where possible.

Hospice care appears to be cost-effective from society's viewpoint. However a majority of the terminally ill still die in hospitals for a variety of reasons: the hospice is a relatively new phenomenon in this country, and most people do not even realize it exists; most hospice programs also require the presence of a primary caretaker who assumes the responsibility for caring for the patient at home; those who live alone, or whose spouse or friend is not available or is unable to assume responsibility for home care may not be eligible to participate in the program. If a hospice charges for its services (all full-care hospice programs in Illinois charge for their services), it may be cheaper from the individual's perspective (but not society's) to die in a hospital where expenses would be covered by Medicare. Edwin J. Olsen, President of the National Hospice Organization testified at a 25 March 1982 Congressional Hearing that "since hospice does not presently exist as a separate Medicare category with unique service definitions, Medicare-eligible Americans who in 1982 need and want hospice care will have to choose not to use hospice services in order to retain their Medicare coverage." Similar incentives existed for the health care community not to provide this lower-cost form of health

care. According to Mr. Olsen "Likewise — those who plan and develop health resources in communities throughout America, those who receive and spend Medicare dollars, those to whom the care of the terminally ill is entrusted — they must choose not to offer the hospice alternative in order to maximize their Medicare revenues."

Current Legislation on Hospices

The unique humanistic approach of hospice care and its cost effectiveness over other forms of health care for the terminally ill has led to support for legislation promoting its development and growth. The Department of Health, Education, and Welfare established a Hospice Task Force in 1978 to investigate the current status of hospices in the United States and the potential role of the federal government in promoting their future development. Their report was positive and elicited further research by the Health Care Finance Administration. Legislation promoting hospice care as a benefit under Medicare was drafted by the National Hospice Education Project in 1981. The proposed bill received support from the June 1982 Congressional Budget Office Report that analyzed its potential cost and indicated that the legislation would result in a "sizeable savings (\$1,120) for each new user of hospice care." By substituting hospice home care for hospital and nursing home treatment, the CBO estimated that the new legislation could save the Medicare program more than \$100 million in the first three years. The CBO expected the overall savings to the Medicare Trust Fund would continue to rise through 1987.

The proposed hospice legislation underwent a number of changes, and on 19 August 1982 the amended hospice legislation was passed by both houses. This bill provides for Medicare reimbursement of hospice care for patients with a life expectancy of six months or less. The patient choosing to participate in the hospice program must waive the right to engage



Photo by Pam Olson, Courtesy Mercy Hospital Hospice.

in other potentially life-prolonging services related to the terminal illness, but can receive treatment for other illnesses unrelated to the terminal illness. The period of coverage extends 210 days, broken into three periods. If the patient opts for curative care during the first or second period, they forfeit the remaining days of coverage in that period. The patient can also opt to resume hospice care, whereon hospice coverage will begin under the second or third period (depending on which period the service was discontinued). If the patient decides to terminate hospice care in the third period, Medicare coverage of hospice services will be discontinued. Total Medicare payments for each patient are limited to \$6,500. Bereavement counseling, an integral part of the hospice concept, will not be covered. The rates for hospice coverage under Medicare are: \$46.25 per day for routine home health care (the backbone of the hospice program); \$55.53 per day for in-patient respite care; \$271.00 per day for general care of patients in a hospice; \$358.67 per day for continuous home care.

This legislation became effective 1 November 1983. The first Illinois hospice to participate in the program was West Towns Community Nursing Hospice in Berwyn, which will serve as a model for other Illinois hospices considering participation. Since the Medicare coverage of hospice care was less than the amount originally proposed, hospice representatives fear that the rates available will jeopardize the ability of 85 percent of existing hospices to provide care under Medicare. As of 11 December 1983 only 110 of the estimated 500 operating hospices in the United States had applied to be eligible for Medicare reimbursement, and most of these applicants were contingent (that is, they reserved the right to change their application when the final rates came out.)

Those involved with hospices have mixed feelings about the new legislation. On the positive side, this new type of health care will now be available to more of the terminally ill. The unique humanistic aspect of the hospice provides a welcome respite from traditional hospital care. However, the new legislation may involve a macabre choice for the dying and their families between humane and sympathetic care or

full use of modern technology and pharmacology, almost as if they were being forced to save money by opting for benign neglect. Also, some feel that the low-cost reimbursement scheme might lead hospices to base services on cost rather than on patient needs. Still others fear that the corruption and mismanagement that occurred in the nursing home industry might be repeated. It remains to be seen whether these fears will be realized and whether the hospice legislation will result in a substantial saving for the Medicare Trust Fund. A sunset provision in the legislation requires Medicare support of hospice care to be reconsidered by Congress in 1986.

Legislation on the state level regarding hospice care has also been proposed and accepted in Illinois. The Hospice Program Licensing Act (Bill 1308) was passed in May 1983. The stated goal of this legislation is to encourage orderly development of hospice programs to provide supportive and palliative care to terminally ill persons and their families during the final stages of their illness and during dying and bereavement and to assure persons requiring the services of hospice programs of the best quality of care. This is to be accomplished through the development, establishment, and enforcement of standards governing care provided by hospice programs. This bill will become effective 1 July 1984. It provides for two types of hospice care to be licensed throughout the state, full-care hospices and volunteer hospices. The volunteer hospice is to be one providing hospice services to patients regardless of their ability to pay, with emphasis on volunteers to provide services, and administration by a not-for-profit agency. The hospice community in Illinois feels good about this legislation because it sets minimum standards. It will ensure that the hospice concept of health care is not abused and that the terminally ill are offered an alternative form of health care that is geared toward their special needs.

Note

1. Source: William M. Markel and Virginia Simon, *The Hospice Concept*, American Cancer Society, 1978.

EXPENDITURES FOR POLLUTION ABATEMENT IN ILLINOIS — 1980

(Thousands of Current Dollars)

	Total	Air	Water	Solid Waste	Other and Unallocated
Pollution abatement	3,058,561	1,273,313	1,247,685	579,964	-42,406
Personal consumption	356,584	356,584	0	0	0
Durable goods	203,210	203,210	0	0	0
Nondurable goods	153,374	153,374	0	0	0
Business	1,898,674	884,578	601,366	458,076	-45,346
On capital account	524,854	326,284	145,729	52,841	0
Manufacturing	12,000	76,400	49,600	12,100	0
Nonmanufacturing	208,165	138,681	49,514	19,970	0
Other	178,589	111,203	46,615	20,771	0
On current account	1,373,820	558,294	455,637	405,235	-45,346
Private	1,152,112	551,165	195,712	405,235	0
Manufacturing	311,835	131,741	101,420	78,674	0
Nonmanufacturing	420,508	246,669	82,867	90,972	0
Other	419,769	172,755	11,425	235,589	0
Government enterprise	267,054	7,129	259,925	0	0
Costs recovered	-45,346	0	0	0	-45,346
Government	803,303	32,156	646,319	121,888	2,940
Federal	13,698	2,607	6,345	1,806	2,940
State and local	136,116	0	16,034	120,082	0
Government enterprise fixed capital	653,489	29,549	623,940	0	0
Capital consumption allowance	433,760	0	0	0	0

Explanatory notes:

1. This table includes expenditures for air and water pollution abatement and for solid waste collection and disposal by means acceptable to federal, state, and local authorities. Expenditure for pollution abatement in agricultural production, except feedlot operations, is excluded.
2. The "other and unallocated" column consists of expenditures not assigned to media.
3. Expenditures are attributed to the sector that performs the air or water pollution abatement or solid waste collection and disposal.
4. Line 9 consists of spending by business for: in the air column — emission abatement devices on motor vehicles; in the water column — residential systems (private septic systems and connections of residences to street sewer lines) and runoff controls for feedlot operations; and, in the solid waste column — residential and commercial solid waste collection and disposal capital expenditures.
5. Line 14 consists of spending by business to operate and maintain: emission abatement devices on motor vehicles (air), residential systems and feedlot runoff controls (water), and residential and commercial solid waste collection and disposal capital.
6. Line 21 is included to facilitate conversion of expenditures to a cost basis.

Source: US Department of Commerce, Bureau of Economic Analysis.

REAL ESTATE DEVELOPMENTS

Real Estate: The Legacy of Tax Advantage

J. Fred Giertz and A. James Heins

That the federal income tax offers special advantage to home ownership has always been appreciated; this advantage derives from the fact that only cash income from investment is subject to tax, and not income-in-kind.¹ But, in the last 20 years investors have been made increasingly aware that investment in residential real estate for rent also has tax advantages. Our purpose is to describe these advantages and analyze their impact on investment patterns in the United States.

The Tax Advantage to Real Estate.

The tax advantage to ownership of rental housing has actually developed from a long legal process. Real estate's new-found advantage has not, for the most part, come from laws liberalizing its tax treatment. Instead, real estate has been able to protect existing tax advantages while similar provisions were eliminated for alternative investments, thus enhancing its relative attractiveness. The tax principle that operates here is that expenses incurred in the conduct of a business can be deducted only from revenues derived from that business. It is recognized that in the process of start up, businesses frequently experience losses, and tax rules permit the offsetting of other income with such losses. And, of course, businesses with occasional losses are entitled to carry those losses forward and backward to offset against income earned during good years.

The problem arises when a business shows persistent losses, and the owner tries to write those losses off against income earned from other endeavors. When persistent losses occur, it is only logical to suppose that the owner derives some advantage other than profits from the business. An early and visible case involved the Winthrop Rockefeller horse farms. After Rockefeller repeatedly wrote off losses from horse farming against his otherwise substantial income, the IRS ruled that the horse operation was a hobby and not a serious business; thus losses could not be offset against other income. The courts upheld this rule.

Over the years after the Rockefeller case, other "hobbies" such as moviemaking were eliminated from

the list of legitimate tax losers, and by 1976 the only major activity that could generate persistent losses without IRS challenge was real estate.² But, since the act of building and renting out real estate has little hobby appeal — in contrast with horses and mingling with movie stars — there must be some other special appeal that would make people subject themselves to persistent accounting losses.

We can identify five aspects of real estate that make it an attractive loser; though no one aspect is sufficient.

1. The IRS has liberal rules for the division of invested dollars between current expense and depreciable real estate. This provides early tax savings and permits ready conversion of ordinary income into capital gains.

To illustrate with an extreme example, suppose an investor in the 50 percent tax bracket puts up \$10 thousand and borrows \$90 thousand to acquire a \$100 thousand property. If this investor can deduct \$10 thousand for current expenses and take another \$10 thousand under accelerated depreciation, his first year costs are \$20 thousand. Even if no cash is generated from this investment, the tax loss of \$20 thousand — when offset against other income — leaves the investor with zero investment to acquire ten percent equity in a \$100 thousand piece of property.

2. The "at risk" rules of the internal revenue code permit investors in a limited real estate partnership to depreciate the full value of the property acquired, despite the fact that their risk is limited essentially to their down payment. Other expenses can similarly be shifted from low to high marginal tax rate investors within the partnership. This is not true of ordinary investment in plant and equipment. The limiting of loss potential to "up front" dollars is crucial to the real estate tax advantage because it permits the rearrangement of costs among investors in various tax brackets so as to maximize the tax savings.

3. The real estate acquired has a potential value independent of the cash it can generate on a rental market. The intrinsic value of real estate is dependent on a variety of options not available to most industrial investors. Perhaps most important is the potential to convert residential real estate from rental to owner-occupied. But even commercial space can be readily converted to a variety of uses, should cash flow from current use decline. This aspect closes the circle in the illustration offered in point one above. Even though little or no cash revenue may be forthcoming on the \$100 thousand property (say, an apartment) its value may be maintained because of the conversion potential (say to condominiums).

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4. Because inflation has a great impact on the current value of long-lived property, and real estate is exceptionally long-lived, investors in real estate benefit from the division of rewards between ordinary income and capital gains during inflation. Here the advantage is peculiarly intertwined with bracket creep and the tax advantage accruing to owner occupancy. That is, property values can outstrip increases in cash from rental during inflation in part because of the increasing attraction to owner occupancy.

5. Depreciation rules for real estate are also liberal compared to most other assets. The 1981 changes in the tax laws allow owners of real estate to depreciate (using accelerated depreciation) their property over 15 rather than 30 to 40 years. In many cases, owners can claim large depreciation expenses (up to 12 percent of the property's value per year), while the property is actually appreciating in value. This is a powerful tool for deferring taxable income far into the future while at the same time converting ordinary income into long-term capital gains. The process of analyzing the impact of taxes is always facilitated by the reduction of tax rules and laws to a simple tax differential between alternative uses of funds. The analysis of the impact of the nontaxability of municipal bond interest is a case in point. However, reducing the variety of tax provisions that affect real estate and alternative investments to a simple tax differential has defied economists. Certainly, it defies us. Moreover, whatever tax advantage does accrue to real estate varies with other social phenomena such as inflation.

Thus the best we can say is that the period between 1960 and 1980 saw a spreading of the real estate tax advantage to ownership of rental property well as owner occupied. This advantage not only spread; it accelerated because of a variety of factors: elimination of tax advantage to alternative investments (moviemaking); the legal development of limited partnerships; and accelerating inflation and bracket creep.

The Consequences.

The accelerating tax advantage to real estate investments had a number of social consequences, some of which could reasonably be termed as desirable, though this conclusion may vary with point of view. The most hurtful consequence was a diversion of investment dollars out of plant and equipment into residential real estate. Table 1 shows the estimated value of the stock of US real estate relative to the value of corporate bonds and equities, a reasonable proxy for the market value of the claims on plant and equipment. While the value of real estate experienced almost a seven-fold increase between 1965 and 1981, the value of corporate securities just more than doubled. From less than 50 percent of the value of plant and equipment in 1965, the value of residential real estate came to exceed plant and equipment by almost 40 percent by 1981.

In terms of annual growth rates, the US housing stock was increasing at an annual nominal rate of 12.6 percent; US business capital was growing at a nominal pace of 5.0 percent annually. Our point is even more vivid when we note that this translates into real growth rates of 6.7 percent for housing and minus 0.9 percent for business capital over the period 1965 to 1981. There can be little doubt that this diversion contributed to the decline in the productivity of American industry in the late 1970s, which further exacerbated inflation. While an improvement in the quality of housing would seem to offer a smiling face to an American society that places high value on living accommodations, the smile fades when it is recognized that the housing was built with resources diverted from plants and equipment.

Another result was a major real estate investment push into the market for rental housing. The impact of this is revealed by the history of the prices of rental versus owner-occupied housing as shown in Table 2. The construction of apartments to take advantage of the tax advantage served to bid up construction costs and the market value of residential real estate generally. This combined with the propensity of people to acquire durables early in the inflationary process

Table 1

US Capital Stock by Category (in billions of dollars)

Year	Residential ^a Non-Farm	Corporate ^b		Total
		Debt	Equity	
1965	\$ 386	\$113	\$ 743	\$ 856
1981	2,579	429	1,432	1,861
Annual Growth 1965-81	12.6%	8.7%	4.2%	5.0%

^a Net stocks of all residential units, including mobile homes, valued using straight line depreciations. (Bureau of Economic Analysis)

^b Equity valued at market; debt is estimated market value from book. (Federal Reserve System)

Table 2

Housing Price Indexes (1967=100)

Year	Rental Housing	Owned Housing
1965	97.4	93.9
1970	112.6	133.4
1975	113.5	174.0
1980	199.6	334.2
1982	230.8	372.9
Annual Inflation, 1965-82	5.2%	8.4%

Source: Bureau of Labor Statistics

pushed the market value of existing homes up. The cost of owner-occupied housing — largely determined by that market value — increased at an annual pace of 8.4 percent, which was faster than the overall pace of inflation. But the infusion of these costly apartments looking for rental in a limited market served to hold the increase in rents to an annual rate of 5.2 percent, less than the overall pace of inflation. If one were to find a good face to put on these events, it would be that they represent a spread of the traditional tax advantage of owner occupants to renters through the subsidy afforded by tax advantage.

A third result and derivative of the social forces at work here is the increased propensity to rent rather than own a home. After decades of increasing rates of home ownership in the United States, the proportion of US families living in their own home leveled off in the 1970s and has decreased since 1980. Recently, the media focused a good deal of attention on a report by the Census Bureau showing that the share of US households occupied by owners declined from 65.6 percent 1980 to 64.6 percent in 1983. And a look at the details hidden inside these total propensities shows that the decline in home ownership was registered even more markedly in families headed by people under 30 years of age. The high price of acquiring a house for first time buyers forced many young families, desirous of owning a home, to postpone its acquisition.

As market values of real estate increased faster than the rents that could be collected to support those

values, many traditional owners and managers of apartments who benefitted little from the spreading tax advantage (depreciation rates were limited to historical pre-inflationary costs) were induced to sell their properties. Some were sold to newly formed limited partnerships who could use the tax advantage more effectively. But, in some cases these apartments were converted to condominiums because the market value of the separable units exceeded their combined value. To this extent, real estate tax advantage contributed to the "condo conversion scare" on Chicago's North Shore. People were being forced to move or join the ranks of owner occupants. Some of those people were old and not well off; so we had another problem commanding social attention.

The drive to build, sell, and rent apartments, the push by people to beat the inflationary crunch by buying their home early, the condo craze, all of these factors attracted salesmen into the real estate industry. From 5,900 members in 1965, some 34,000 people held membership in the Illinois Association of Realtors in 1980. Real estate was a profitable line, until 1980 that is, when the housing market collapsed. By 1983, the number of active Realtors had declined by about 33 percent to less than 23,000, another victim of the historical impact of the real estate tax advantage. To a limited extent, the plight of the savings and loan industry can also be laid at this door.

Let us summarize by assessing the social and economic consequences we have attributed to the growing tax advantage of real estate investment. On



BEHR Staff photo

the plus side would appear to be the spreading of the benefits of tax advantage to renters as well as homeowners. Of course, those with an agenda of using tax incentives to encourage people to become homeowners might well disagree with our putting this on the plus side of the social ledger. In addition, this is by no means the most efficient mechanism for subsidizing housing.

While real estate agents and brokers made money during the glory years prior to 1980, a lot of hardship has visited them since then. Unsustainable booms do that; they attract people into careers and then let them down, hard.

We view these consequences as minor, however, compared to the impact of real estate tax advantages on the division of new capital between residences and plants and equipment. Those readers who have traveled in other countries may appreciate our license when we say Americans have come to live in a 21st century housing plant being supported by a 19th century industrial plant. We may pay these consequences for a long time as we watch American industrial productivity continue to slip relative to our competitors around the world.

Remedies?

While tax changes made in 1981 that liberalized depreciation rules for nonresidential investment, together with the reduction in rates and end of inflation have helped, further remedies would seem to be in order. Unfortunately, none of the remedies is politically attractive; this is always a problem with policy gone wrong in a democratic society. In the face of any policy, wrong or right, plans are made and decisions effected. In this case, homes were purchased at high interest rates and monthly interest payments affordable to many families because that interest is tax deductible. Had interest deductibility not been a part of our tax structure, those families would not have purchased homes of that size. But, it was and they did. Thus, the remedy of removing the interest deductibility feature of our income tax is flawed politically, because it would create hardship for people who acted in good faith.

Putting rental housing into the moviemaking category by subjecting it to the "at risk" rules of the income tax would put a severe crimp into investment

in the rental real estate market, and apartment owners might take a financial bath. Moreover, rents would be pushed up substantially, with the burden largely borne by people at the lower end of the income scale. Therefore, this solution is also unattractive politically. Here is a clear case of rich, tax-sheltering apartment owners hiding behind the political skirts of poor renters. You cannot get at the rich without slugging the poor.

The problem of remedies is simple; tax rules have encouraged the creation of a real estate plant in the United States beyond the capacity of its industrial base to support it. To change the tax rules to prevent exacerbation of this problem in the future threatens the tenability of the current structure of financial support. There is no easy way out.

We propose one solution only, not solely because of its efficiency, but also because of its political attractiveness. Were we to twist the income tax structure a bit, by increasing the minimum tax rate and reducing the higher regular tax rate, we would reduce the incentive to elect tax shelters — real estate being the big one — over investments producing ordinary income. This assumes, of course, that the income subject to the minimum recaptures excess depreciation and other expenses that make real estate an attractive loser. We could phase it in over a few years to reduce its current impact; yet it would push us in the right direction. Use of the minimum tax format to resolve inefficiencies is not economists' favorite method because of lumpiness of its effects; however its political attractiveness combined with the larger social problem at issue commend it to us.

Notes

1. The source of the favorable treatment is often misunderstood. The exclusion of imputed rent from income, not the deductibility of property taxes and mortgage interest payments (both of which are also available to landlords) is the prime advantage of home ownership. The deductibility of interest merely extends the favorable treatment to borrowers as well as those who own their homes outright.

2. The ownership of vacation homes is subject to special rules, however. For homes used more than two weeks a year by the owner, expenses can be deducted only to the extent of rental income.

The Illinois Timber Industry

Joseph Denig and Dwight R. McCurdy

The December 1978 issue of the *Illinois Business Review* reported on a survey of Illinois timber buyers (D. R. McCurdy and F. F. Fellers, "The Illinois Timber Buyer," *Illinois Business Review*, Vol. 35, No. 10, 1978, pp. 6-7). This is a follow-up of that study. The information gathered in the first survey has been a valuable tool to both private and public agencies for planning, developing, and managing Illinois forest resources. In order to assess anticipated changes in future operating practices of the Illinois timber industry and evaluate the effect of a depressed economy on the timber market, a re-survey of the purchasers was conducted in 1982.

Robert Hann, Director of the US Forest Service, North Central Forest Experiment Station in St. Paul, stated in a recent speech at Southern Illinois University at Carbondale, that Illinois ranked fourth in the nation in wood use, yet ranked thirty-fourth in wood production. The state legislature has taken action to increase forest utilization and forestry within Illinois.

After the passage of both the Illinois Forestry Development Act and the amendment of the Illinois Farm Development Authority Act in the fall of 1983, the survey data will be useful in evaluating the influences of the two bills on the forest products industry within the state. A 4-percent timber severance tax would cover 20 percent of the cost of implementation of acceptable forest management practices under the Forestry Development Act. The amended Farm Development Authority Act also authorizes implementation of low-cost loans for capital improvements in forest product businesses.

To obtain the re-survey information, all licensed timber buyers (365) for the year 1982 were sent questionnaires. Thirty-two percent of the licensed timber buyers returned completed questionnaires. The discussion that follows is based on the analysis of those returned questionnaires and the results of the 1976 survey.

Size and Location of the Industry

Overall summary data for the Illinois timber industry for 1976 and 1982 are listed in Table 1. The volume of standing timber purchased in Illinois during 1982 was approximately 91.4 million board feet, consisting of 1,700 sales. This was a slight decrease in the volume of timber sold as compared to 1976, when 96.4 million board feet of timber were sold from 1,960 timber sales.

The sluggishness of the timber market was a reflection of the overall economy. A greater mani-

festation of the poor overall economic condition was reflected in the decrease in the volume logged between the years 1976 and 1982. The amount of timber logged declined from 122 million board feet of timber in 1976 to 97 million board feet of timber in 1982. This may be explained in that timber purchasers were waiting for better markets to develop for lumber and other end products before harvesting the standing timber they had purchased.

The number of licensed timber buyers in Illinois did not significantly change between 1976 to 1982, 368 purchasers versus 365 respectively. However, the number of buyers in 1982 declined from 381 in 1981. This was a result of 71 buyers not renewing their licenses in 1982 and 55 additional new buyers entering the Illinois timber market in 1982.

Geographically the location of the timber purchasers has remained stable between the years 1976 and 1982 (see the map) — the location of the timber buyers being a good indicator of the location of the timber resources of the state. This is supported by a question in the 1982 survey in which 75 percent of the respondents travelled an average of 50 miles or less to their logging sites. The close proximity of the timber buyer to his logging site is due to an attempt to minimize transportation costs.

Table 1

Summary Data for Illinois Timber Industry, 1976 versus 1982

	1976	1982
Timber Purchased (million board feet)	96.4	91.4
Number of Sales	1,960	1,700
Timber Logged (millions of board feet)	122	97
Number of Buyers	368	365

Products from Harvested Timber

Nearly all of the timber purchasers produced sawlogs as one of their products from their logging operations (Table 2) in both 1976 and 1982. There was an increase in the percentage of purchasers producing high-value products from their logging operations. Table 2 shows an increase of 8 percentage points in the number of purchasers producing sawlogs and an increase of 11 percentage points in the number of purchasers producing veneer logs.

This increase in log merchandising, or using the logs produced from a tree for their highest value, may be a recognition by the timber buyer that in order to remain competitive in the timber market he must pay the going rate for the timber, even though the timber purchased would not all be processed in the buyer's mill. For example, timber buyers procuring timber for a sawmill will bid up timber prices in order to obtain a specific sale and then sell off the

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Map

Residence, by County, of Timber Buyers within the State



vener-quality logs from their purchase, thus paying the going rate for the timber and maintaining their raw material supply.

The most frequent method by which timber buyers learned of standing timber for sale was word of mouth (Table 3). There was a drop by 47 percentage points for timber buyers learning of sale by word of mouth between the years 1976 and 1982.

Table 2

Percentage of Illinois Timber Purchasers Producing Various Products for 1976 and 1982

Year	Sawlogs	Veneer	Cooperage	Pulpwood	Posts	Pilings
Percentage of Timber Buyers						
1976	89 ^a	53	28	10	3	2
1982	97	64	30	7	0	3

^a This can be interpreted as 89 percent of the timber buyers produced sawlogs as one of their products.

This may be interpreted as an increase in the sophistication of the timber sellers. However, the use of the bid declined 14 percentage points between the years 1976 and 1982.

The most popular method of paying for timber was lump-sum payment before cutting in both 1976 and 1982, 78 and 72 percent, respectively (Table 4). Paying a percentage of the FOB sawmill prices as cut increased 13 percentage points between the years

Table 3

How Timber Buyers Learned of Timber Sales in Illinois, 1976 and 1982

Method Learned	Percent of Timber Buyers	
	1976	1982
Word of Mouth	100 ^a	53
Bid Invitation	89	25
State Listing	18	17
Advertisements	16	14

^a This can be interpreted that 100 percent of the timber buyers learned of at least one timber sale by word of mouth in 1976.

1976 and 1982. The increase in use of payment as a percentage of FOB mill prices as cut is a reflection of cash shortages in the timber industry during times of high interest rates and slow markets.

Forestry Operating Practices

Nearly all of the timber buyers surveyed used the Doyle Log Rule to measure the volume of timber

Table 4

Methods Buyers Paid for at Least One Timber Sale in Illinois during 1976 and 1982

Method of Payment	Percent of Timber Buyers	
	1976	1982
Lump sum before logging	78	72
Pay as cut	36	36
Percent of FOB		
mill prices as cut	7	20
Lump sum after logging	3	13

(96 percent in 1976 and 93 percent in 1982). The remainder used the Scribner and/or the International 1/4-Inch Log Rule. Caution must be exercised when measuring timber by the various log rules, since each has its own measuring peculiarity.

The percentage of timber purchasers using a timber contract or deed for at least one of their timber sales increased from three-fourths to 92 percent between 1976 and 1982, respectively. In 1982,



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three-fourths of the buyers used a timber contract or deed for all of their sales.

The number of buyers obtaining at least one sale in which the timber was marked before cutting increased from one-half to three-fourths in 1976 compared with 1982. Also, the number of buyers that reported having at least one sale where the volume of standing timber had been estimated before cutting increased from one-third of the buyers in 1976 to nearly two-thirds of the buyers in 1982.

The increasing use of timber contracts, marking of the timber, and volume estimation are signs of increased use of good forestry practices within the

state of Illinois. This is a reflection of the awareness of both buyer and seller that good forestry practices are cost effective in the long run.

Summary

The 365 licensed timber buyers in Illinois during the year 1982 purchased 91.4 million board feet of timber. This compares with 368 buyers during 1977 purchasing 96 million board feet of timber. There were signs of poor economic conditions in the timber market for 1982 versus 1977. However, a more sophisticated market is developing, indicated by increased utilization of good forestry practices.

ILLINOIS BUSINESS INDEXES

	Percent Change Mar. 1983 Mar. 1984	Mar. 1984	Feb. 1984	Jan. 1984	Dec. 1983	Mar. 1983	Feb. 1983
Coincident indicator (1969=100)	4.42%	106.2	104.3	102.5	101.9	101.7	100.5
Employment-manufacturing (in thousands) ^a	3.33%	977.4	973.6	969.7	969.9	945.9	927.2
Average weekly hours-manufacturing ^a	3.27%	41.0	40.9	41.1	41.8	39.7	39.8
Weekly earnings-manufacturing ^a	8.73%	\$408.77	\$406.55	\$408.12	\$417.16	\$375.96	\$377.30
Help wanted advertising Chicago (1969=100) ^a	114.29%	90	92	81	89	42	42
Help wanted advertising St. Louis (1969=100) ^a	45.95%	54	60	55	50	37	38
Retail sales (in millions) ^b	4.78%	\$4,565	\$4,255	\$4,137	\$5,755	\$4,794	\$4,153
Coal production (in thousands)	4.21%	5,863	5,344	5,523	4,485	5,626	5,061
Petroleum products (in thousands) ^c	12.00%	2,200	2,032	2,311	2,235	2,500	2,300
Vendor performance	43.00%	72.0%	68.0%	63.0%	67.0%	50.0%	42.0%
Building permits (in thousands)							
Residential housing units	2.05%	2,136	1,57	0,933	1,990	2,093	0,829
Value of residential housing	11.09%	\$124,676	\$93,413	\$50,662	\$103,015	\$112,227	\$46,538
Value of nonresidential construction							
Industrial buildings	89.91%	\$11,611	\$20,186	\$4,579	\$10,027	\$6,114	\$9,881
Office, banks, and professional buildings	7.06%	\$25,808	\$25,919	\$20,269	\$41,729	\$27,768	\$23,161
Stores and other mercantile buildings	2.34%	\$10,065	\$8,437	\$9,916	\$10,571	\$10,306	\$3,853
Other	47.73%	\$1,810	\$1,035	\$1,230	\$9,209	\$3,463	\$2,513
Consumer price index (December 1977=100)							
North Central US ^a	4.01%		166.2		165.1		159.8
North Central population more than 1,250,000 ^a	3.88%		168.7		167.6		162.4
North Central population 385,000 to 1,250,000 ^a	3.51%		165.2		163.6		159.6
North Central population 75,000 to 385,000 ^a	4.30%		162.5		161.1		155.8
North Central population less than 75,000 ^a	4.53%		163.7		162.4		156.6
Chicago (1967=100)	3.98%	305.4	305.0	305.2	303.9	293.7	293.7
St. Louis (1967=100)	3.24%	302.7		299.6		293.2	
		1983:III	1983:II	1983:I	1982:IV	1982:III	1982:II
Personal income (in millions) ^{d,e}	4.73%	\$147,492	\$145,179	\$142,115	\$141,560	\$140,832	\$138,355
Per capita personal income ^{d,e}	4.91%	\$12,907	\$12,704	\$12,436	\$12,365	\$12,302	\$12,086

^aThe Conference Board, *Help Wanted Advertising*, March 1984. ^bLatest month projected by BEBR. ^cPercent change between February 1983 and February 1984. ^dPercent change between 1982:III and 1983:III. ^eRecent month is preliminary figure.



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Decentralization in the Railway Industry — Formation of New Small Railroad Companies

John F. Due

The last decade has seen a number of rail mergers, which, if the trend continues, will see the major railroads of the country merged into a half dozen or so large and perhaps truly transcontinental systems. But as this concentration has proceeded at a fast pace, so has a trend toward decentralization — the spin-off of lines of major systems to newly formed, independent, short-line railroad companies. Initially this occurred primarily when a major road abandoned a line; now more and more it reflects the desire of a major company to transfer a line to another enterprise. Nationwide there are roughly 125 of these new companies, operating over 7,500 miles of line. In Illinois there are 8 (although two are not currently operating as of July 15) and one more likely to begin operations before the end of 1984. In many instances transfer to a new company is the only feasible alternative to immediate abandonment, which the railroads have sought on an increasing scale, or deterioration of service provided by the main line carrier.

The Financial Situation of the Railroad Industry

Underlying the trend to decentralization is the fact that many US railroads have excessive mileage relative to the amount upon which they can earn a necessary rate of return. This is basically a product of competitive overbuilding in the last century, coupled with the obvious profitability under the conditions of building lines to serve virtually every community. Even though total freight traffic of the railroads has increased over the years, the development of

trucking has diverted substantial traffic from many lines and prevented rate increases that would allow costs to be covered. Because of nationwide union contracts, wages on the lighter-traffic lines are comparable to those on main lines, and work rules developed under main line conditions are applied (with some exceptions in recent years) to light-traffic lines as well. This raises operating costs to levels well above the true economic costs. Light-traffic lines particularly were caught by the productivity squeeze: rail wages tended to rise in conformity with (and often in advance of) national wage trends, but productivity fell on these lines because of lower traffic volume and unchanged work rules. This deteriorating financial position of the light-traffic lines of the rail network aggravated, and in turn was made more serious by, the overall low rate of return in the railroad industry. From 1945 to 1983, the rate of return on investment exceeded 4 percent in only three years and in four years was under 2 percent. The railroads had been successful in abandoning lines that were handling little or no traffic. They were slow, however, to pursue discontinuance of lines on which there was more than negligible traffic, for fear of ICC rejection, a bitter fight with shippers, and the lack of an adequate routine system for determining profitability of particular routes. But most railroads as a matter of economic necessity did tend to downgrade service on the lighter-traffic lines, in turn causing still greater

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loss of traffic. They failed to modernize facilities and frequently allowed serious physical deterioration of track.

By 1980 many railroads had substantial mileages that required extensive reinvestment to allow effective operation, including replacement of light rail by rail heavy enough to allow the movement of covered hopper cars. This mileage does handle considerable traffic, and thus shippers and communities fight abandonment. Some of the lines do not actually suffer an operating loss (a prerequisite in the past for ICC approval of abandonment). But the point was reached by the 70s and early 80s that massive reinvestment of capital was necessary for continued efficient operation. Railroads often lacked the capital or were unwilling to borrow at the prevailing high interest rates. If they had the funds, these would yield substantially better return if placed in main line improvements or into diversification out of the industry.

The Formation of New Companies

In addition, to this general situation, a series of events in the last decade speeded up both abandonment and use of a major alternative to abandonment — the formation of new local companies to take over lines that did have considerable traffic but which the major carriers no longer wished to retain. The first was the bankruptcy of the Penn Central and other eastern railroads and the formation of CONRAIL, with substantial mileage omitted without the need for ICC approval. Then in 1981 NERSA was enacted by Congress allowing CONRAIL to abandon almost any light traffic line it wished — part of the strenuous and successful effort by Congress to make CONRAIL profitable. The bankruptcy of the Rock Island and the Milwaukee followed, with all of the former and much of the latter liquidated. This stimulated some of the other roads to evaluate their lines more carefully. Changes in legislation, culminating in the Staggers Act of 1980, speeded up and simplified the abandonment process. The Interstate Commerce Commission, with new personnel acting in conformity with the legislation, became much more liberal in granting approval of abandonment. Congress also provided funds to facilitate retention of lines that offered overall benefits in excess of costs. Funds were made available for state rail planning and for pur-

chase, rehabilitation, and, until 1982, operating subsidy. The states were given a major role in use of the federal funds. Several states developed substantial assistance programs of their own, Michigan and Wisconsin, and in a different fashion, Iowa, being the principal ones in the midwest.

As noted, many of these lines that the major companies wished to dispose of had considerable traffic, actual and potential, and shippers had substantial concern about the loss in rail service. At the same time various persons became interested in seeking to establish new local railroad companies to continue operation of these lines. The attitude of major carriers toward these new companies has varied and has changed somewhat over time. Some were originally hostile to the idea, apparently fearing that the new road would obtain an excessive share of the joint rate. But this fear had largely been eliminated by the Staggers Act and the reluctance of the ICC to require joint rates; more and more the major roads see the spin-off of lines to new companies as advantageous. Spin-off allows them to eliminate, without a fight with shippers, lines on which they cannot earn an average return and at the same time ensure retention of traffic to or from these lines for their main lines.

These new lines are not subsidiaries or in any way related financially to the owner of the previous major carrier. The initiators of the new lines fall primarily into two groups. The first consists of shippers who wish to retain service and either acquire and operate the line themselves or join with local or outside entrepreneurs who manage the enterprise. The second major group consists of persons who see the opportunity of operating a line profitably — though none of these expect to make a fortune in the way of profits. Many have had considerable railroad experience. Several of the lines are operated by holding companies owning and/or managing several short lines. The largest by far is the Kyle system, which currently operates 12 railways, primarily in the West and the South, including the former Rock Island main line across Kansas and Colorado. The Kyle system has an excellent reputation with state departments of transportation and local officials and shippers. One of the earliest systems, that of Trans-Action Associated, of New Lenox, Illinois, has operated two major lines in Illinois. The Delaware-Otsego system operates several lines, primarily in New York State.

States and local governments have provided substantial assistance in several ways. The most important has been purchase of track, which is then leased to the private company for operation. Over half of the mileage of the new companies has been acquired by states or local government units, although only three local governments and one state (West Virginia) directly operate new lines. Subsidy was provided in the initial years, until federal funds for this purpose were eliminated in 1981, and has continued in a few states on a very limited basis since that time. Most of the roads are now on their own, except for rehabilitation funds, primarily federal money.

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The Pattern in Illinois

Illinois has had six new intrastate lines plus two primarily located in other states, one close to commencing operation, and others seriously considered.

Two of the lines, one operating, one planned for operation, were promoted by the shippers. The Kankakee Beaverville and Southern operated 86 miles of track in eastern Illinois, partly ex-New York Central, partly Milwaukee track. It was formed by a grain elevator operator in the Kankakee area; traffic is primarily outbound corn and soybeans, with some inbound agricultural supplies.

The so-called Bloomer line, in the area between Kankakee and Bloomington, hopes to begin operation in the fall of 1984. This is strictly a shipper project, the formation of the company being the final step in a long battle by the grain elevators to preserve rail service. The shippers were sufficiently concerned about higher transport costs experienced with trucking that they banded together to form the new company and obtain funds (partly federal) to acquire and improve the line.

The two lines operated by Trans-Action Associates, Prairie Central, and Prairie Trunk, while having shipper support, were primarily initiated by an entrepreneur in the field who had long railroad experience and operated other short lines. The Prairie Central's main line extends from Decatur to Paris, 75 miles, primarily handling milling and food products, and from the Decatur industries. This is a relatively high-traffic-density line, and apart from problems this spring with derailments and a dispute over trackage rights for entry into Decatur, had been able to survive. As of July 15, it is not being operated pending possible settlement of the trackage rights problem. This was originally operated as the Wabash Valley Railroad, owned by Morrison-Knudson, the Idaho contracting firm. When operating subsidy ended in 1981, Morrison-Knudson pulled out, and operations were assumed by Prairie Central without subsidy. In 1982 the company took over the former New York Central line from Paris to Lawrenceville, 64 miles, but traffic, primarily grain, proved to be less than anticipated, and operations were discontinued early in 1984.

The Prairie Trunk has operated former Baltimore and Ohio trackage, which Chessie was seeking to abandon, southeastward from near Springfield to Shawneetown, 172 miles. This is likewise primarily a grain-hauling road. As of July the line is not being operated and the future is uncertain.

There are two lines in southern Illinois, with substantially different backgrounds and nature of traffic. The Crab Orchard and Egyptian began life in 1973 as a passenger excursion road operating nine miles on an ICG line from Ordill to Mande, through Marion, developed by an engineering professor. When the ICG sought to abandon the line, the CO and E took over the freight operation, and the city of Marion purchased the track. Much of the traffic is piggyback, with grain the other principal traffic. Passenger excursion service was ultimately discontinued, but the

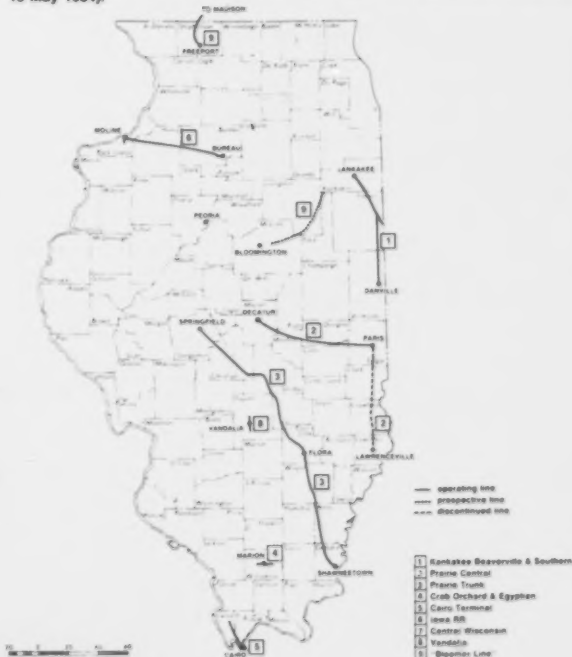
road still operates freight service with a steam locomotive, the only railroad in the United States to do so. The CO and E has been successful in building up new traffic.

Farther south at Cairo, the Cairo Terminal was formed by the former CONRAIL crew members of the train operating a four-mile terminal line isolated from the rest of the CONRAIL by washouts, serving one industry. Then in 1983 when the ICG sought to abandon its 18-mile line from Cairo to Elco, the Cairo Terminal acquired it, with the aid of a community development grant through the county. The traffic is primarily silica sand.

The newest line to commence operation (April 1984) is the Vandalia, operating 2.5 miles of former ICG track in Vandalia, serving two major industries, a feed mill and a plastics plant. The track was purchased by the city and state-federal funds were provided for some rehabilitation.

Two other lines operate into Illinois, though their operations are primarily in other states. The Central Wisconsin, with a major network of lines developed by the late John Zerbelt, mostly ex-Milwaukee, in southern Wisconsin, operates the former ICG line from Freeport to Madison. The Iowa Railroad, which has taken over the former Rock Island main line across Iowa, extends as far as Bureau and also operates the important high-volume Milan branch in the Quad Cities area. The LaSalle and Bureau County, a long-established Illinois short line, operates a portion of the ex-Rock Island trackage in the Chicago area. Several promoters have been interested in the ICG line from Freeport to El Paso, which the ICG now has ICC permission to abandon, but which is subject to a legal dispute. (continued on p. 10)

New Railroad Companies in Illinois that Have Taken Over Abandoned Lines (as of 15 May 1984).



Illinois's Firewood Industry

Dwight R. McCurdy, Tom J. Mark, and Mark D. Giacoletto

The use of firewood both as an alternative heating source and for aesthetic purposes is a major factor in the forest economy of Illinois. During the 1982-1983 heating season, one household in four in Illinois burned firewood for domestic purposes. The total volume of wood consumed was approximately two million cords. The major reasons for burning wood were for heating (61 percent of the households) and aesthetics (39 percent of the households).

A potentially viable industry in Illinois would be supplying firewood to these households on a commercial basis. If this potential is to be realized by both the forest landowners and prospective firewood dealers, information is needed about the existing firewood industry. Therefore, the Forestry Department at Southern Illinois University at Carbondale surveyed firewood dealers in the southern 16 counties of Illinois for both the 1981-1982 and 1982-1983 heating seasons and the remaining counties of Illinois for the 1982-1983 season. The survey was accomplished by the following telephone interviews: southern Illinois, 1981-1982, 49 dealers; southern Illinois, 1982-1983, 74 dealers; and central and northern Illinois, 1982-1983, 134 dealers.

All the firewood dealers included on the survey advertised their business in newspapers. The purpose of this survey was: 1) to provide a description of the firewood industry in Illinois; 2) to analyze practices and determine trends related to raw material procurement, and marketing practices/policies; and 3) to compare firewood dealers in southern Illinois with those in central and northern Illinois.

Marketing of Firewood

Firewood dealerships in Illinois can be characterized as relatively small businesses in volume of sales. Half of the dealers sold no more than 10 cords (a cord is a stack of wood 4 feet high, 8 feet wide and 4 feet long) of wood annually (Table 1). Similarly, the number of customers each dealer served was generally less than 10 households (Table 2). Those dealerships with larger than average sales and number of customers usually were located in large urban areas.

The area in which the dealers sold firewood was also relatively small when compared to the market area for many other businesses. Two-thirds of the dealers sold wood only in their resident county, traveling no more than 10 miles when delivering wood to customers.

The prices charged for firewood varied from 30 to 180 dollars per cord, with an average price of 85 dollars per cord when delivered. Prices varied by

whether or not the wood was delivered — delivered wood generally being 10 to 15 dollars per cord more expensive. When delivered in large trucks or sold in large quantities, the price per cord often decreased. Most wood was delivered via pick-up trucks.

During the latter part of the heating season, when firewood becomes less plentiful, the prices often increased. Also, wood that had been allowed to season (that is, dry) generally brought higher prices. Most firewood sold had been seasoned and, when necessary, split. Other factors causing higher prices were stacking of wood for the customer in designated sites and longer than normal delivery distances.

When the dealers were asked how they obtained customers other than by newspaper advertising, most said they relied on word-of-mouth from satisfied customers. Other advertising methods used by dealers included telephone yellow pages, signs, radio, posters and business cards, and maintaining a list of previous customers.

Firewood Procurement

Nearly all of the dealers obtained their firewood in their resident county, or at most, from an adjacent county. Private lands were the source of the wood. Forty percent of the dealers obtained some wood from their own land.

The actual sites from which the firewood was procured varied. However, approximately half of the dealers obtained some, if not all, of their wood from nearby woodlands (Table 3). Scattered trees in fence-rows, pastures, and cropland were the second most

Table 1

Volume of Sales

No. of Cords	Percent of Dealers			
	1981-82 (So.Ill)	1982-83 (So.Ill)	1982-83 (No. & Cent. Ill)	1982-83 (Ill)
1 to 5	22	31	24	28
6 to 10	33	20	16	20
11 to 25	20	29	21	21
26 or more	25	20	39	31

Table 2

Number of Customers

No. of Customers	Percent of Dealers			
	1981-82 (So.Ill)	1982-83 (So.Ill)	1982-83 (No. & Cent. Ill)	1982-83 (Ill)
1 to 5	27	35	19	25
6 to 10	20	20	13	16
11 to 25	28	30	29	29
26 or more	25	15	39	30

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popular wood source. Areas being cleared for right-of-ways, agriculture, mining, and so on were also popular sources of wood.

To determine whether or not firewood procurement was affecting the availability of trees for lumber and other wood products, those dealers obtaining wood from forest land were asked if they had cut standing live trees. Less than a third of the dealers had cut standing live trees, but most had obtained wood from dead and fallen trees or tops of trees left after logging (Table 4). A final source of wood for 5 percent of the dealers was scrap wood obtained at sawmills.

By far the most popular tree species for firewood was oak, followed by hickory. Oak's popularity is due to its heating potential, slow-burning qualities, ease of splitting, and abundance in Illinois.

Dealership Characteristics

The selling of firewood is generally a seasonal industry. More than half the firms sold only during the heating season. A second unique characteristic of firewood dealerships is that nearly all are operated by no more than two people (Table 5). In fact, more than half are operated by a single individual.

A third important characteristic of firewood businesses is that, each year, more than half of the dealers are in their first year of selling firewood. At least this characteristic occurred in the 1981-1982 and 1982-1983 heating seasons in southern Illinois (Table 6). When the dealers who had gone out of business after the 1981-1982 heating season were interviewed, the following reasons for not remaining in business

were given: moved from former business; ran out of firewood; insufficient time to operate business; former business not profitable; found other employment; and failing health.

It was interesting to learn that those firms which had been in business longest generally sold more firewood, had more customers, sold more months during the year, and employed more people than the average dealership in Illinois. (These relationships were found to be statistically significant at the 99-percent probability level using Chi-Square Criterion.)

A fourth characteristic is that approximately two-thirds of the firms had other occupational or business pursuits in conjunction with their firewood business (Table 7). The most frequent related businesses were farming, lumbering, and landscaping. Finally, when the dealers were asked their major operational problems, the most frequent answer was reported as difficulty in gaining access to their wood supply due to inclement weather and poor ground conditions

Table 3

Wood Source	Percent of Dealers 1982-83		
	Southern Ill.	Northern & Central Ill.	Ill.
Trees within city limits	5	12	10
Scattered trees	33	38	36
Woodlands	55	50	52
Areas being cleared	16	17	17

Table 4

Form of Firewood Taken from Woodlands	Percent of Dealers 1982-83		
	Southern Ill.	Northern & Central Ill.	Ill.
Standing live trees	32	30	31
Logging waste or residuals	50	36	41
Dead and/or downed trees	43	67	58

Table 5

Number of Employees	Percent of Dealers			
	1981-82 (So. Ill)	1982-83 (So. Ill)	1982-83 (No. & Cent. Ill)	1982-83 (Ill)
One	59	58	47	51
Two	29	34	34	34
Three or more	12	8	19	15

Table 6

Number of Years in Business	Percent of Dealers			
	1981-82 (So. Ill)	1982-83 (So. Ill)	1982-83 (No. & Cent. Ill)	1982-83 (Ill)
One	63	66	45	52
Two	16	12	23	19
Three or more	21	22	32	29

Table 7

Related Businesses	Percent of Dealers 1982-83		
	Southern Ill.	Northern & Central Ill.	Illinois
Farming	20	18	19
Landscape/Tree Service	4	15	11
Sawmill/Logging	6	6	6
Unemployed	31	19	23
Retired	7	3	5
Unrelated	32	39	36

(continued on p. 11)

REAL ESTATE DEVELOPMENTS

Illinois Experience with the Community Reinvestment Act: Using a Steam Roller to Crush an Ant

Lewis Davids and Gola E. Waters

The decade of the 1970s probably will go down in history as the "Consumerists" decade. It started at the federal level with the July 1969 passage of Regulation Z, more popularly known as the "Truth in Lending Act." During the 1970s this regulation was amended and expanded from only a few pages in the original to its most recent amendment of 88 pages in 1981, including seven pages of fairly complicated mathematical formulas. However, the federal regulators found that the 88 pages of the act were inadequate, because lenders sent queries asking for clarification of the regulations. The Federal Reserve Board issued well over 1,000 Interpretive Letters on this one regulation alone, and more are constantly being issued.

Truth in Lending legislation was followed by such consumer-oriented legislation as the Fair Housing Act, the Home Mortgage Disclosure Act, the Fair Debt Collection Act, the Electronic Funds Transfer Act, the Equal Credit Opportunity Act, and the Community Reinvestment Act. In addition, there was a major overhauling of the Bankruptcy Act that reduced many of the rights of lenders and strengthened the rights of delinquent debtors.

Many of the consumer-oriented acts and titles were given names containing terms such as "Truth," "Disclosure," "Fair," "Equal Opportunity," and "Community Reinvestment." Despite the high sounding words, there is reason to question whether those social goals are reachable with such legislation. Also the expenses of implementing and auditing the acts have ultimately to be borne in part by those who the acts were designed to help, as well as by taxpayers generally. The question naturally arises about the justification for this type of social legislation in light of the costs. Therefore, it is desirable from time to time to conduct a study of the effectiveness of such legislation. We undertook the following analysis of the impact of the Community Reinvestment Act (CRA) on Illinois banks from the inception of the act in 1977 through 1983.

The general purpose of the Community Reinvestment Act, otherwise known as Regulation BB (12 CFR 228), is to encourage banks to help meet the

credit needs of the local community, including low-income neighborhoods, consistent with the safe and sound operation of those banks. To do this, each bank is to prepare and, at least annually, review a delineation of the local community or communities that comprise its entire community, without excluding low- and moderate-income neighborhoods.

The act is to be enforced by primary bank regulators — nationally chartered banks by the Office of the Comptroller of the Currency, state-chartered banks not members of the Federal Reserve system by the Federal Deposit Insurance Corporation; state chartered Federal Reserve member banks by examiners from the Federal Reserve bank in their district. The Illinois State Commissioner of Banks and Trust Companies also examines state chartered banks. A somewhat similar and complex system is used in the examination of federally chartered and state chartered savings and loan associations.

In this instance the act is faulty. "Low and moderate income neighborhoods" is not defined. While an individual may intuitively "know" what is "low and moderate," the fact is that no specific maximum or minimum numbers are provided to measure this subjective description. In contrast, the word "poverty" is officially defined by a federal government agency. And it changes periodically with changes in the Consumer Price Index (CPI).

The terminological fuzziness may well have been deliberate. "Low and moderate income neighborhoods" is not objectively quantified but is subjective by nature, and the enforcers of the act can determine what they please to be "low and moderate income" areas.

This study looks at the experience of banks in Illinois with the CRA in the seven years 1977-1983, based on publicly available records that banks maintain on complaints that have been filed with them by their customers, local community groups, the press, individuals, or competitors. It presents the findings of a sample survey of 526 banks, of which 53 percent or 281 banks, responded. The data have been extrapolated where statistically justified to represent the universe of 1,288 banks in Illinois in December 1979. While major responses to the survey were by mail, follow-up telephone and personal interviews were also used.

Of the 281 banks polled, only 12 reported receiving complaints, for a total of 24 complaints in all. The other 269 responding banks indicated that they had no complaints filed against them in the seven-year period. As indicated in Table 1, more than one-half of the complaints come from the metropolitan areas in and around Chicago and East St. Louis. The remaining complaints were in more rural counties,

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Table 1

CRA Complaints Filed against Sampled Banks from 1977-1983 by County

County	Number
Christian	1
Cook	9
Douglas	1
Lee	2
Marshall	1
Monroe	2
St. Clair	4
Wabash	4
Total ^a	24

^a Of the 24 complaints filed, the banks were found legally correct in 21 instances. In two instances the facts were disputed. In one instance the bank redefined its CRA area.

in towns ranging in size from 2,147 to 10,644. If these figures were to be extrapolated for the entire universe of 1,288 Illinois banks, we could have anticipated a total of only 108 complaints being filed from 1977-1983 against 54 banks, or 15 per year. Moreover, the sampled banks were determined to be legally correct in the seven-year period in all but three instances (one instance in which the bank expanded the definition of its CRA area and two instances in which the facts of the case were in dispute), and extrapolating this number would indicate that 15 complaints for all of Illinois might have been legitimate, or at least the facts of the complaints disputed.

Reading of the general literature dealing with the CRA suggests that a serious problem of red-lining existed, but the scarcity of legitimate complaints found in this study lead us to question whether much of the literature was based on facts drawn from Illinois banks' performance under the CRA or simply on social theory.

Table 2 shows the important demographical data for the 12 banks reporting 24 complaints between

1977 and 1983. Complaints were not limited to major urban metropolitan areas but were spread throughout the state. The years 1978 and 1981, in which half the complaints were filed, were two years of exceptionally high increases in interest rates from previous levels. In those two years, funds available for long-term mortgage lending were limited. This suggests that potential borrowers who might have qualified for loans in more interest-stable periods became unqualified as the higher interest rates reduced their ability to meet the payments. This, in turn, may have led to an increasing number of potential borrowers being rejected, spurring some to file additional complaints. And, in fact, after reviewing the facts, banking regulators ruled completely in favor of the banks in all but three instances.

It is puzzling that national banks — about one-quarter of the state chartered banks in Illinois — generated about twice as many complaints as state-chartered banks is puzzling. National banks tend to be larger than state chartered banks, but this does not seem important in light of our analysis of the spread of bank size reporting at least one complaint. It is possible that the different regulatory agencies, the Comptroller of the Currency, the Federal Reserve, and the Federal Deposit Insurance Corporation, which share responsibility with the Illinois Commissioner of Banks and Trust Companies for some state chartered banks, have different examination and implementation standards for the CRA. In any event, the number of complaints in which the facts were in dispute, and thus might be valid, was so small as to make light of any serious analysis of different rate of compliance between national and state banks.

In one sense, the collected data were extremely positive. The data demonstrated that, contrary to the perception of many writers, banks in Illinois had an exemplary performance in compliance with the Community Reinvestment Act during the years 1977-1983.

It is hard to develop cost-to-benefit figures of implementation of the CRA in Illinois simply because

Table 2

Profile of Complaints Filed against Sampled Illinois Banks

Bank Size (millions of \$)	State (S) or National (N) Bank	Total Complaints ^a	Year						
			77	78	79	80	81	82	83
6000	S	1-A							1
322	S	3-B		1		1			1
180	N	1-C			1				
130	N	5-D		4			1		
116	S	4-A			1		3		
89	S	2-A					1	1	
64	N	1-B					1		
55	N	1-A					1		
98	N	1-A	1						
31	N	2-D					1		1
24	N	1-A		1					
15	N	2-A							

^a A — bank was legally correct in all cases; B — there was a factual dispute in one case; C — the bank had revised its CRA area; D — bank was correct in all but one case, customer error in the other complaint.

CRA charges are not reported or obtainable from the several federal agencies enforcing the act. However, the 1979 Annual Report of the Federal Deposit Insurance Corporation does note:

Each compliance examination averaged 56 hours in 1979, almost double the 1978 average. This is expected to climb to 70 hours in 1980. The FDIC expects to spend 387,000 examiner hours on compliance in 1980, a 60 percent increase from 1979. Truth in Lending will account for about half of that time, the Equal Credit Opportunity Act and Community Reinvestment Act will each take another 15 percent of compliance examination time and Fair Housing Act enforcement 10 percent.

On the assumption that the FDIC figures are approximately correct, this one federal agency in 1980 would have spent approximately 58,050 hours nationwide on CRA compliance examination. The time in 1980 would approximate 4,644 hours for Illinois banks examined by the FDIC.

If we assume that other federal and state bank regulators approximated the FDIC experience in proportionate time spent in CRA compliance in 1980, we can estimate that the national and Illinois figures of other agencies (which are not publicly available or not broken down for Illinois) would add substantially to this figure, perhaps as much as 55 percent more nationally and 58 percent more for Illinois. This is because there are 4,000 nationally chartered banks and about 1,000 state chartered banks that are members of the Federal Reserve System, out of the total

of 15,000 banks in the nation. Of the 1,288 Illinois banks, 410 had national charters, and 62 were members of the Federal Reserve System.

Beyond the cost of an examination paid by either taxpayers or bank customers, we must account for the cost of bank compliance with CRA. Certainly these costs are passed on to bank customers as well.

The 24 individuals filing CRA complaints against the 12 banks in our sample over the seven-year period must have felt justified and indignant, even though regulators ruled the banks were legally justified in all but three instances, two of which involved dispute over the facts of the case. However, one would have to value that indignation highly to generate cost-benefit ratios for CRA worth mentioning. Of course, maybe some members of Illinois society would hold that if only one of the complaints from 1977-1983 was legally correct the CRA has served its purpose. More likely to be numerous, however, are the taxpayers who foot the bill for CRA examinations and who are unhappy with the social payoff from the expense.

There are some students of regulations and regulatory agencies who favor "sunset" regulations. That is, when an act is passed, at the end of a reasonable time the act automatically will be terminated unless it can be clearly demonstrated that the financial and social benefits exceed the financial costs. It would appear that Regulation BB — the Community Reinvestment Act — would be a strong candidate for such treatment.

Nonelectrical Machinery in Illinois

Carolyn Woj

Illinois relies more heavily on manufacturing as a source of income than do other parts of the country. Manufacturing accounted for nearly one-third of state personal income in Illinois in 1977 and one-fourth of personal income nationally. The state also relies more heavily on foreign trade than do many other areas in the US, and this dependency is increasing. As Table 1 indicates, export-related manufacturing employment in Illinois accounted for 10.9 percent of all manufacturing employment in the state in 1977 and 13.8 percent in 1980.

Within manufacturing, the largest component in Illinois is nonelectrical machinery. This manufacturing sector encompasses a large number of manufacturing concerns: farm machinery and equipment, mining machinery and equipment, industrial trucks and tractors, power-driven hand tools, textile machinery, and machine tools. Nonelectrical machinery manufacturing generated approximately one-fifth of the total value added by manufacturing in the state and 17 percent of manufacturing employment. The nonelectrical machinery industry is also more heavily dependent on foreign trade than is any other manufacturing sector in Illinois. Table 2 illustrates export-related manufacturing employment. While only 13.8

percent of all manufacturing employment is export related, 22.7 percent of all nonelectrical machinery employment is export related. A healthy export market is crucial to the well-being of this industry and the Illinois economy.

In recent years, the performance of this sector of the economy has deteriorated sharply. The impact of the weakening in nonelectrical machinery has been more severe on the Illinois economy than on that of the nation as a whole. For example, between 1980 and 1983 there was a 33.4-percent decrease in employment in the state, compared to a 16.1-percent decrease nationally. (See Table 3.)

Table 1

Export-Related Manufacturing Employment as a Percent of Total Manufacturing Employment

	1977	1980	% Change 1977-1980
Illinois	10.9	13.8	26.6
Rest of Nation	10.1	13.7	35.6
Nation	10.2	13.7	34.3

Table 2

Illinois Export-Related Employment

	Total Export-Related Employment	Total Employment	Export-Related Employment as a % of Total Employment
Nonelectrical Machinery	49,100	215,900	22.7
Other Manufacturing	127,100	1,058,200	12.0
Total Manufacturing	176,200	1,274,100	13.8

Table 3

Nonelectrical Machinery Employment (in thousands)

	US	Illinois		
		Chicago	Rest of State	State Total
1980	2,488.8	106.4	119.6	226.0
1981	2,305.7	106.8	112.1	218.9
1982	2,272.8	88.0	90.0	178.0
1983	2,088.4	72.3	78.3	150.6
% Change 1980-1983	-16.1	-32.0	-34.5	-33.4

Table 4

Nonelectrical Machinery Employment in Selected Illinois Areas (in thousands)

Area	1980		1984 to Date		
	Number	Percent of Manufacturing Employment	Number	Percent of Manufacturing Employment	Percent Change 1980-1984
Chicago	106.4	12.9	74.2	11.5	-30.3
Peoria	33.5	65.6	22.3	63.5	-33.4
Davenport-Rock Island-Moline	27.0	55.4	20.3	56.5	-24.8
Rockford	14.0	27.5	10.5	24.2	-25.0
Rest of State	45.1	19.2	26.1	12.0	-42.1
State Total	226.0	18.7	153.4	15.8	-32.1

Within the state, the impact of the industry's decline has been disparate. As Table 4 indicates, the Peoria and Davenport-Rock Island-Moline areas are clearly more dependent on this manufacturing sector than are the other areas in the state for which data were available. Nonelectrical machinery employment accounted for more than one-half of all manufacturing employment in these two areas. Peoria, which experienced the largest percentage decrease in employment, was also the most dependent on this sector.

An examination of how the various components of the nonelectrical machinery sector performed can help to show where and why the industry is declining. Although recent data on the various product groupings is incomplete, the 1982 Census of Manufacturers Preliminary Report, Industry Series provides data relating to several of the 4-digit SIC industries. These data show that during the 1977-1982 period various sectors experienced minor changes in performance. But they also show that the industrial trucks and

tractors sector underwent radical change. Nationally, employment fell from 28,800 in 1977 to 23,300 in 1982, a 19.1-percent decrease. The decline of this industry had a severe impact on Illinois. The state experienced a 54.5-percent decrease in employment. 2,400 jobs were eliminated by 1982, bringing the 1977 employment of 4,400 down to 2,000. Illinois went from being the state with the second largest employment in this sector, to being tied for third.

Factors leading to the decline of the nonelectrical machinery industry in recent years are the national recession, pressure from imports, and a lagging export market. The sector of our economy that manufactures durable goods is especially prone to cyclical movements. The condition of the industry reflects largely the state of the national economy. During a recession or depression, consumers and businessmen will postpone purchases of new goods and equipment. Consumers will attempt to stretch out the useful life of a stove or refrigerator until the purchase of a new

one is a necessity. During a recovery individuals are more optimistic about their future financial outlook and are more likely to accelerate their purchase of durables. Other sectors of the economy are not as subject to cyclical movements. For example, consumers will purchase food in good and bad times. Food is a necessity, the purchase of which cannot be postponed. Therefore, since Illinois is heavily dependent on manufacturing, what happens in the state depends, to a large extent, on what happens nationally.

Industry leaders claim that imports are the cause of the depressed domestic market since imports accounted for more than one-third of the machine tools market in 1983. James Gary, President of the machine tools industry association, stated their position as follows: "Imports subsidized by foreign governments continue to ravage our defense-essential industry." Spokesmen for the industry have asked the Reagan administration to limit imports to a certain percentage of the market. So far the response of the administration is uncertain.

A recent study of the machine tool industry commissioned by the National Academy of Sciences recommended that the industry "look beyond Government trade policy for solutions to its problems." Suggestions for strengthening the industry included research and development designed to lower production costs and additional customer education and service. These efforts would serve to strengthen the competitiveness of the industry in the world market.

The outlook for the nonelectrical machinery industry depends on the following factors: trade-restrictive policies being pursued by industry leaders, the growth of the national economy, self-help efforts instituted by the industry, and the extent of joint ventures with foreign manufacturers. Illinois is especially dependent on the national recovery to spur purchases of manufactured durables; and, according to the Chase Econometrics Standard Forecast, the industry will experience a weak rebound. A moderate percentage increase in production is forecast for 1984, followed by much smaller increases in 1985 and 1986.

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Apart from these common-carrier operators, three lines have been purchased by grain elevator companies and operated as private carriers (with train operation to date on two by the ICG under contract): from Rantoul west to Fisher and east to Dillsburg, and from Mattoon to Jones, 10 miles.

The Advantages of the New Companies

A major question is: how can a new local company operate a line successfully when a major carrier cannot? Experience suggests two elements in the answer. First, small local companies typically have much greater flexibility in the use of labor and may pay lower wages. In general, the major carriers are bound by labor union contracts, developed largely on the basis of main line operations. These raise the costs of operating lighter-traffic lines substantially above the economic opportunity costs. Short lines typically operate with two-person crews, very great flexibility in the use of labor, plus the ability to use part-time labor. Not infrequently the train crew will handle diesel maintenance and even track work. Only by this means can the time of personnel be effectively utilized. Pay is usually based on a full eight-hour day, and at local wage scales rather than those in industrial areas. Few of the smaller railroads are unionized. Those that are, with minor exceptions, have very liberal contracts with regard to crew size and flexibility in the use of labor. By contrast, the small roads are not able to make as efficient use of their equipment or use more sophisticated types, as for example, for track maintenance, but these disadvantages are overwhelmed by the labor cost saving.

The other advantage of short lines is the inevitable ability to adjust service more fully in terms of the needs of the shippers — better timing, frequency, reliability, and personalization of service. A major

company must adjust its service in terms of large numbers of shippers; it cannot devote attention economically to all shippers on light-traffic lines. One of the major reasons traffic has fallen on such lines has been deterioration of service, as the carriers have concentrated on the high-density lines. Closely related is the much more cooperative attitude of shippers with a local railroad. They know the officials, and they can get immediate attention to their needs. They recognize that failure to patronize the line may result in loss of the line, to their detriment and that of other shippers in the community. By contrast there is still widespread acceptance of the idea that the large companies cannot obtain approval to abandon lines with a significant volume of traffic.

The great majority of the new companies nationally are clearly succeeding. Some inevitably have shut down because the anticipated traffic was less than expected or because of loss of traffic from changed business practices, shutting down of industries on the line, truck deregulation, and other causes. But most have been able to survive and many show evidence of being able to do so indefinitely, given the present volume of traffic and other conditions. In many instances shippers have benefitted materially in terms of service: greater frequency, greater reliability, adjustment in timing, and the like — in general, greater personalization of service. The result is that some of the new carriers have been able to regain traffic long lost to trucks, primarily because of improved quality of service.

Shippers faced with the alternative of transfer of a line to a short-line enterprise, particularly if the latter has adequate management and financing, are almost certain to be better off than if they attempt to ensure continued operation by a major company. Under the terms of the Staggers Act and liberalized

Interstate Commerce Commission policy, it is almost impossible to prevent approval of an abandonment request — as shown clearly by the evidence of the last three years. The fact that under the new legislation, the railroads may include in their costs an adequate return on the capital in the line greatly facilitates their ability to demonstrate a loss and insure approval of abandonment. But even if approval is denied, the railroad can apply a surcharge to rates to and from points on the line, based on losses. Such surcharges may render continued use of the line uneconomic. Almost certainly, if the major carriers do not find continued operation of the line profitable, they will allow service and track to deteriorate to the detriment of the shippers. Shippers and communities faced with the option of transfer to short-line operation have little to lose and substantial likelihood of improvement. It is important, however, that the new ventures have management and financial capacity to operate effectively.

While space does not permit detailed review, a few examples will indicate the accomplishments of some new carriers. North Stratford, in far northern New Hampshire, has provided essential service to a major furniture factory, the only industry in the area, following abandonment by the Maine Central. The state owns the track, but the road operates without subsidy. The Vermont Railroad operates 128 miles of the former Rutland Railroad line and has done so for 15 years without subsidy, providing improved service and paying the state for use of the track. The Providence and Worcester, now operating 376 miles in southern New England, has improved service tremendously compared to that of the previous owner, the New Haven. The Hillsdale County has preserved service in southern Michigan on lines considered unsuitable for CONRAIL. The Indiana Hi Rail has

improved service materially on the former N and W line to Rushville, to the degree that substantial traffic has been recovered from trucks. In southern Wisconsin, the Wisconsin Southern and the Central Wisconsin and its affiliates are operating 377 miles of former Milwaukee trackage successfully without subsidy. The Iowa Northern has maintained service to grain elevators on the former Rock Island line extending northwest out of Cedar Rapids, 140 miles. As noted, not all such lines have succeeded, but the overall survival rate has been good.

A major obstacle in the way of successful development of a new short line is the problem of raising capital to finance the purchase of the track. Most railroads now, particularly those anxious to rid themselves of marginal lines, are willing to sell track for net salvage value. This is often around \$25,000 a mile, but varies with circumstances, such as weight of the rail. But even so the promoters may find great difficulty in raising the funds. As noted, in a number of states, the state or the local governments have stepped in to buy the line, doing so at very little risk, since if the project does not succeed, the money can be recovered by scrapping. The most useful step Illinois could take to aid in the development of new lines is either to purchase track when analysis shows a very good chance of success of the line, or to provide loans to developers of new companies for purchase and reconstruction of track, after the patterns set by Indiana and Iowa. Currently the state merely provides the nonfederal share of rehabilitation funds, plus indirect assistance through state rail planning. At the same time, careful evaluation by the state of proposals for new short-line ventures is desirable. This involves considering management capabilities, adequate financing to pay bills and claims, and other working capital needs, and traffic volume.

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(Table 8). The high cost of processing and delivering the wood relative to an acceptable selling price was the second most frequently mentioned problem.

Table 8

Major Operational Problems

Operational Problems	Percent of Dealers			
	1981-82 (So. Ill)	1982-83 (So. Ill)	1982-83 (No. & Cent. Ill)	1982-83 (Ill)
Access to Wood				
Supply	31	23	20	21
Adequate Wood				
Supply	16	12	16	15
Operation				
costs/Maintenance	10	22	25	24
Lack of				
Demand	4	13	13	13
Other	6	16	22	21
No major problems	37	23	23	23

Conclusions

From the survey findings, several conclusions can be made about the firewood industry in Illinois. The industry is very competitive since large capital outlays for equipment and raw materials are not prerequisites to initiating business — this conclusion is supported by the finding that about half of the dealers were in their first year of business. A major prerequisite for beginning a firewood dealership is access to an adequate supply of wood; the supply must not only be adequate in amount, but also accessible during inclement weather. Urban areas provide the most lucrative firewood markets as compared to rural communities since a comparatively large number of potential customers live within a profitable delivery range. Firewood dealerships are generally a part-time, low-gross-income business.

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A final conclusion of importance to the forest economy of Illinois is that the current drain of standing live trees is not large. Most firewood is from dead and fallen trees. However, a potential negative impact on Illinois' forests for supplying other primary forest products near large urban areas is a reality. This

impact is especially real for woodlands containing oak and hickory. Currently, white oak is the most valuable timber species in Illinois when sold for veneer products. In addition, the red oaks receive high prices when suitable for the domestic home-building market.

ILLINOIS BUSINESS INDEXES

	Percent Change May 1983- May 1984	May 1984	April 1984	Mar. 1984	Feb. 1984	May 1984	1984
Coincident indicator (1969=100)	5.48%	109.07	108.35	106.2	104.3	103.4	102.3
Employment-manufacturing (in thousands) ^a	2.13%	988.2	985.2	979.1	973.6	967.6	949.8
Average weekly hours-manufacturing ^a	2.00%	40.9	41.4	41.0	40.9	40.1	40.1
Weekly earnings-manufacturing ^a	6.90%	\$410.23	\$414.83	\$408.77	\$406.55	\$383.76	\$388.17
Help wanted advertising-Chicago (1969=100) ^a	109.09%	92	90	90	92	44	39
Help wanted advertising-St. Louis (1969=100) ^a	35.71%	57	57	54	60	42	39
Retail Sales (in millions) ^b	-2.30%	4,724	\$4,854	\$4,643	\$4,255	\$4,835	\$4,496
Coal production (in thousands)	31.51%	6,147	5,657	5,863	5,344	4,674	4,692
Petroleum products (in thousands) ^c	-3.23%	2,400	2,310	2,200	2,032	2,480	2,400
Vendor performance	34.62%	70.0%	71.0%	72.0%	68.0%	52.0%	52.0%
Building permits (in thousands)							
Residential housing units	29.47%	3,712	2,914	2,136	1,57	2,867	2,586
Value of residential housing	35.84%	\$220,037	\$169,758	\$124,676	\$93,413	\$161,979	\$132,459
Value of nonresidential construction							
Industrial buildings	-30.30%	\$21,282	\$10,237	\$11,611	\$20,186	\$30,534	\$6,498
Office, banks, and professional buildings	94.56%	\$43,423	\$31,563	\$25,808	\$25,919	\$22,319	\$26,682
Stores and other mercantile buildings	-40.53%	\$18,603	\$16,975	\$10,065	\$8,437	\$31,283	\$13,997
Other	104.35%	\$5,783	\$4,089	\$1,810	\$1,035	\$2,830	\$2,295
Consumer price index (December 1977=100)							
North Central US ^c	3.78%	-	167.3	-	166.2	-	161.2
North Central/population more than 1,250,000 ^c	3.85%	-	169.9	-	168.7	-	163.6
North Central/population 385,000 to 1,250,000 ^c	3.22%	-	166.8	-	165.2	-	161.6
North Central/population 75,000 to 385,000 ^c	3.88%	-	163.4	-	162.5	-	157.3
North Central/population less than 75,000 ^c	4.05%	-	164.5	-	163.7	-	158.1
Chicago (1967=100)	3.58%	306.9	306.7	305.4	305.0	296.3	295.3
St. Louis (1967=100)	3.39%	305.4	-	302.7	-	295.4	-
		1983:IV	1983:III	1983:II	1983:I	1982:IV	1982:III
Personal income (in millions) ^{d,e}	6.44%	\$149,354	\$146,943	\$143,159	\$140,630	\$140,320	\$138,900
Per capita personal income ^{d,e}	6.25%	\$13,003	\$12,793	\$12,464	\$12,244	\$12,238	\$12,114

^aThe Conference Board, *Help Wanted Advertising*, May 1984 ^bLatest month projected by BEBR. ^cPercent change between April 1983 and April 1984.

^dPercent change between 1982:IV and 1983:IV. ^eRecent month is preliminary figure.